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Alexander Sasov, SkyScan, Belgium

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Angela Dias, Federal University of Para, Brazil; Sergio Furuie, Sao Paulo Heart Institute, Brazil

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Ting Chen, New York University, United States; Xiaoxu Wang, Dimitris Metaxas, Rutgers, the State university of new jersey, United States; Leon Axel, New York University, United States

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Manasi Datar, GE Global Research, India; Dirk Padfield, GE Global Research, Rensselaer Polytechnic Institute, United States; Harvey Cline, GE Global Research, United States

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Antonio Ruiz, University of Malaga, Spain; Jun Kong, Ohio State University, United States; Manuel Ujaldon, University of Malaga, Spain; Kim Boyer, Joel Saltz, Metin Gurcan, Ohio State University, Spain

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Estelle Glory, Justin Newberg, Robert F. Murphy, Carnegie Mellon University, United States

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Robert F. Murphy, Carnegie Mellon University, United States

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Stephan Preibisch, Radoslaw Ejsmont, MPI-CBG, Germany; Torsten Rohlfing, SRI International, United States; Pavel Tomancak, MPI-CBG, Germany

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Thomas Walter, EMBL, Germany; Michael Held, ETH Zürich, Switzerland; Beate Neumann, EMBL, Germany; Jean-Karim Hériché, Wellcome Trust Sanger Institute, United Kingdom; Christian Conrad, Rainer Pepperkok, Jan Ellenberg, EMBL, Germany

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Yuvalal Liron, Yael Paran, Irina Lavelin, Suha Naffar-Abu-Amara, Sabina Winograd-Katz, Benjamin Geiger, Zvi Kam, Weizmann Institute of Science, Israel

TH-P2a: High-Throughput Imaging and Screening

TH-P2a.1: MAPPING HIPPOCAMPAL DEGENERATION IN 400 SUBJECTS WITH A NOVEL AUTOMATED SEGMENTATION APPROACH

Jonathan Morra, Zhuowen Tu, Liana Apostolova, Amity Green, Christina Avedissian, Sarah K. Madsen, Neelroop Parikshak, Xue Hua, Arthur W. Toga, University of California, Los Angeles, United States; Clifford Jack, Mayo Clinic College of Medicine, United States; Norbert Schuff, Michael Weiner, University of California, San Francisco, United States; Paul M Thompson, University of California, Los Angeles, United States

TH-P2a.2: SPATIOTEMPORAL BAYESIAN CELL POPULATION TRACKING AND ANALYSIS WITH LINEAGE CONSTRUCTION

Luke Beaumont, James Wakefield, Oxford University, United Kingdom; J. Alison Noble, University of Oxford, United Kingdom

TH-P2a.3: SCORING HISTOLOGICAL SECTIONS THROUGH IMMUNOHISTOCHEMISTRY

Hang Chang, Lawrence Berkeley National Laboratory, United States; Rosa Anna DeFilippis, Thea Tlsty, University of California, San Francisco, United States; Bahram Parvin, Lawrence Berkeley National Laboratory, United States

TH-P2a.4: ACTIVE MASK SEGMENTATION FOR THE CELL-VOLUME COMPUTATION AND GOLGI-BODY SEGMENTATION OF HELA CELL IMAGES

Gowri Srinivasa, Carnegie Mellon University, United States; Matthew Fickus, Air Force Inst. of Tech., United States; Manuel N. Gonzalez-Rivero, Sarah Hsieh, Yusong Guo, Adam Linstedt, Jelena Kovacevic, Carnegie Mellon University, United States

TH-P2a.5: FAST REGISTRATION-BASED AUTOMATIC SEGMENTATION OF SERIAL SECTION IMAGES FOR HIGH-RESOLUTION 3D PLANT SEED MODELING

Felix Bollenbeck, Udo Seiffert, Leibniz Institute of Plant Genetics and Crop Plant Research, Germany

TH-P2a.6: TOWARDS HIGH-THROUGHPUT FLIM FOR PROTEIN-PROTEIN INTERACTION SCREENING OF LIVE CELLS AND TISSUE MICROARRAYS

Paul Barber, Glenn Pierce, University of Oxford Gray Cancer Institute, United Kingdom; Simon Ameer-Beg, Dan Matthews, Leo Carlin, Melanie Keppler, Muireann Kelleher, Frederick Festy, King's College London, United Kingdom; Cheryll Gillett, Robert Springall, Guy's Hospital, United Kingdom; Tony Ng, King's College London, United Kingdom; Borivoj Vojnovic, University of Oxford Gray Cancer Institute, United Kingdom

TH-P2a.7: MORPHOLOGICAL-BASED ADAPTIVE SEGMENTATION AND QUANTIFICATION OF CELL ASSAYS IN HIGH CONTENT SCREENING

Jesus Angulo, Ecole des Mines de Paris, France; Béatrice Schaack, CEA Grenoble, France

TH-P2a.8: MONTE CARLO ASSESSMENT OF TIME-OF-FLIGHT BENEFITS ON THE LYSO-BASED DISCOVERY RX PET/CT SCANNER

Parham Geramifar, Faculty of Physics and Nuclear Engineering, Amir Kabir University of Technology (Tehran Polytechnic), Iran; Mohammad Reza Ay, School of Medicine, Medical Sciences, University of Tehran and Research Center for Science and Technology in Medicine, University of Tehran, Iran; Mojtaba Shamsaei Zafarghandi, Faculty of Physics and Nuclear Engineering, Amir Kabir University of Technology (Tehran Polytechnic), Iran; George Loudos, Department of Medical Instruments Technology, Technological Educational Institute, Greece; Arman Rahmim, Department of Radiology, School of Medicine, Johns Hopkins University, United States

TH-P2a.9: ACCURATE REGISTRATION AND FAILURE DETECTION IN TISSUE MICRO ARRAY IMAGES

Musodiq Bello, Ali Can, Xiaodong Tao, General Electric, United States

TH-P2a.10: FAST AND ROBUST SEGMENTATION OF SPHERICAL PARTICLES IN VOLUMETRIC DATA SETS FROM BRIGHTFIELD MICROSCOPY

Olaf Ronneberger, Qing Wang, Hans Burkhardt, Universität Freiburg, Germany

TH-P2a.11: SPATIO-TEMPORAL CELL SEGMENTATION AND TRACKING FOR AUTOMATED SCREENING

Dirk Padfield, GE Global Research and Rensselaer Polytechnic Institute, United States; Jens Rittscher, GE Global Research, United States; Badrinath Roysam, Rensselaer Polytechnic Institute, United States

TH-P2a.12: PERFORMANCE EVALUATION OF MULTIRESOLUTION TEXTURE ANALYSIS OF STEM CELL CHROMATIN

Rami Mangoubi, Mukund Desai, Nathan Lowry, C. S. Draper Laboratory, United States; Paul Sammak, Magee-Womens Research Institute, United States

TP-P2b: Optical tomography

TP-P2b.13: A SPLINE-BASED FORWARD MODEL FOR OPTICAL DIFFUSE TOMOGRAPHY

Jean-Charles Baritaux, Seelamantula Chandra Sekhar, Michael Unser, EPFL, Switzerland

TP-P2b.14: FLUORESCENCE DIFFUSE OPTICAL TOMOGRAPHY: A SIMULATION-BASED STUDY COMPARING TIME-RESOLVED AND CONTINUOUS WAVE RECONSTRUCTIONS PERFORMANCES

Nicolas Ducros, Anabela Da Silva, Jean-Marc Dinten, CEA/LETI, France; Françoise Peyrin, CREATIS, France

TP-P2b.15: LOCAL QUALITY ASSESSMENT FOR OPTICAL COHERENCE TOMOGRAPHY

Peter C. Barnum, Carnegie Mellon University, United States; Mei Chen, Intel Research Pittsburgh, United States; Hiroshi Ishikawa, Gadi Wollstein, Joel Schuman, University of Pittsburgh School of Medicine, United States

TP-P2b.16: THEORETICAL ANALYSIS OF COMPLEX-CONJUGATE-AMBIGUITY SUPPRESSION IN FREQUENCY-DOMAIN OPTICAL-COHERENCE TOMOGRAPHY

Seelamantula Chandra Sekhar, Roland Michaely, Ecole Polytechnique Federale de Lausanne, Switzerland; Rainer Leitgeb, Medical University of Vienna, Austria, Austria; Michael Unser, Ecole Polytechnique Federale de Lausanne, Switzerland

TP-P2b.17: WAVELET-BASED ESTIMATION OF LONG-MEMORY NOISE IN DIFFUSE OPTICAL IMAGING

Carl Matteau-Pelletier, Mathieu Dehaes, Frédéric Lesage, École Polytechnique de Montréal, Canada; Jean-Marc Lina, École de technologie supérieure, Canada

TP-P2b.18: MICROSTRUCTURE PRESERVING SYNTHESIS OF BIOMEDICAL IMAGES

Shantanu Singh, Kishore Mosaliganti, Raghu Machiraju, The Ohio State University, United States

TP-P2c: Brain imaging

TP-P2c.19: AUTOMATIC CLASSIFICATION OF ALZHEIMER'S DISEASE VS. FRONTOTEMPORAL DEMENTIA: A SPATIAL DECISION TREE APPROACH WITH FDG-PET

Neda Sadeghi, Norman Foster, Angela Wang, University of Utah, United States; Satoshi Minoshima, University of Washington, United States; Andrew Liebermann, University of Michigan, United States; Tolga Tasdizen, University of Utah, United States

TP-P2c.20: CLASSIFICATION OF DEMENTIA FROM FDG-PET PARAMETRIC IMAGES USING DATA MINING

Lingfeng Wen, Michael Bewley, University of Sydney, Australia; Stefan Eberl, Michael Fulham, Royal Prince Alfred Hospital, Australia; Dagan Feng, Hong Kong Polytechnic University, Hong Kong SAR of China

TP-P2c.21: MRI INTER-PACKET MOVEMENT CORRECTION FOR IMAGES ACQUIRED WITH NON-COMPLEMENTARY DATA

Elias Gedamu, Abraham Gedamu, Douglas Arnold, Louis Collins, McConnell Brain Imaging Centre, Canada

TP-P2c.22: IDENTIFYING CORTICAL SULCI FROM LOCALIZATION, SHAPE AND LOCAL ORGANIZATION

Matthieu Perrot, Denis Rivière, Jean-François Mangin, CEA/Neurospin, France

TP-P2c.23: FCD SEGMENTATION USING TEXTURE ASYMMETRY OF MR-T1 IMAGES OF THE BRAIN

Felipe Bergo, Alexandre Falcão, IC/Unicamp, Brazil; Clarissa Yasuda, Fernando Cendes, FCM/ Unicamp, Brazil

TP-P2c.24: CLUSTERING BY OPTIMUM PATH FOREST AND ITS APPLICATION TO AUTOMATIC GM/WM CLASSIFICATION IN MR-T1 IMAGES OF THE BRAIN

Fábio Cappabianco, Alexandre Falcão, Leonardo Rocha, University of Campinas, Brazil

TP-P2c.25: MAGNETIC RESONANCE IMAGING (MRI) AND SPECTROSCOPY (MRS) USING SIMULTANEOUS 2-CHANNEL ACQUISITIONS: APPLICATION FOR MOUSE BRAIN EXAMINATION BY RECONFIGURATION OF A "STANDARD" BRUKER SPECTROMETER

Adrian Rengle, Hélène Ratiney, Adriana Bucur, Sophie Cavassila, Olivier Beuf, CREATIS-LRMN, CNRS UMR 5220, Inserm U630, INSA-Lyon, France

TP-P2c.26: VARIABILITY OF THE RELATIVE CORPUS CALLOSUM CROSS SECTIONAL AREA BETWEEN DYSLEXIC AND NORMALLY DEVELOPED BRAINS

Noha El-Zehiry, Manuel Casanova, Adel Elmaghraby, University of Louisville, United States

TP-P2c.27: AUTOMATED RELIABLE LABELING OF THE CORTICAL SURFACE

Jing Wan, Aaron Carass, The Johns Hopkins University, United States; Susan M. Resnick, National Institute on Aging, National Institutes of Health, United States; Jerry L. Prince, The Johns Hopkins University, United States

TP-P2c.28: STATISTICAL DEFORMABLE MODEL APPLIED TO ANATOMICAL LANDMARK DETECTION

Camille Izard, Bruno Jedynak, Johns Hopkins University, United States

TP-P2c.29: BRAIN SURFACE CONFORMAL PARAMETERIZATION WITH SLIT MAP

Yalin Wang, University of California, Los Angeles, United States; Xianfeng Gu, Stony Brook University, United States; Tony F. Chan, Paul M Thompson, University of California, Los Angeles, United States; Shing-Tung Yau, Harvard University, United States

TP-P2c.30: FUZZY C-MEANS WITH VARIABLE COMPACTNESS

Snehashis Roy, Harsh Agarwal, Aaron Carass, Ying Bai, Dzung Pham, Johns Hopkins University, United States; Jerry L. Prince, The Johns Hopkins University, United States

TP-P2c.31: QUANTITATIVE GENETIC MODELING OF LATERAL VENTRICULAR SHAPE AND VOLUME USING MULTI-ATLAS FLUID IMAGE ALIGNMENT IN TWINS

Yi-Yu Chou, Natasha Lepore, Marina Barysheva, Ming-Chiang Chang, University of California, Los Angeles, United States; Katie L. McMahon, Greig I. de Zubicaray, Matthew Meredith, University of Queensland, Australia; Margaret J. Wright, Queensland Institute of Medical Research, Australia; Arthur W. Toga, Paul M. Thompson, University of California, Los Angeles, United States

TP-P2c.32: BEST INDIVIDUAL TEMPLATE SELECTION FROM DEFORMATION TENSOR MINIMIZATION

Natasha Lepore, Caroline Brun, Yi-Yu Chou, Agatha D. Lee, Marina Barysheva, University of California, Los Angeles, United States; Greig I. de Zubicaray, Katie L. McMahon, Matthew Meredith, University of Queensland, Australia; Xavier Pennec, INRIA Sophia-Antipolis, France; Margaret J. Wright, Queensland Institute of Medical Research, Australia; Arthur W. Toga, Paul M Thompson, University of California, Los Angeles, United States

TP-P2c.33: A TEXTURE-BASED METHODOLOGY FOR IDENTIFYING TISSUE TYPE IN MAGNETIC RESONANCE IMAGES

Michael Barnathan, Jingjing Zhang, Erickson Miranda, Vasileios Megalooikonomou, Temple University, United States; Scott Faro, Temple University School of Medicine, United States; Harvey Hensley, Fox Chase Cancer Center, United States; Luis Del Valle, Kamel Khalili, Jennifer Gordon, Temple University, United States; Feroze Mohamed, Temple University School of Medicine, United States

TP-P2c.34: IMPROVED IDQC RECONSTRUCTION FOR INHOMOGENEITY CORRECTED MR SPECTROSCOPY

Rohini Shankar, Tianliang Gu, Jianhui Zhong, Mathews Jacob, University of Rochester, United States

TP-P2c.35: G-FACTOR AND GRADIENT WEIGHTED DENOISING WITH EDGE RESTORATION (G-DENOISER) FOR SENSE RECONSTRUCTED MR IMAGES

Sathya Vijayakumar, University of Utah, United States; Randy Duensing, Feng Huang, Invivo Corporation, United States

TP-P2c.36: GENERAL LINEAR MODEL AND INFERENCE FOR NEAR INFRARED SPECTROSCOPY USING GLOBAL CONFIDENCE REGION ANALYSIS

Sungho Tak, Kwang-Eun Jang, Jinwook Jung, Jaeduck Jang, Jong Chul Ye, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea

TP-P2c.37: CONSTRUCTION OF A PATIENT-SPECIFIC ATLAS OF THE BRAIN: APPLICATION TO NORMAL AGING

Anders Ericsson, Paul Aljabar, Daniel Rueckert, Visual Information Processing, Imperial College, United Kingdom

TH-PM2-O1: Classification in Microscopy

TH-PM2-O1.1: CHROMOSOME PAIRING FOR KARYOTYPING PURPOSES USING MUTUAL INFORMATION

Artem Khmelinskii, Rodrigo Ventura, João Sanches, Instituto de Sistemas e Robótica /Instituto Superior Técnico, Portugal

TH-PM2-O1.2: COMBINING MULTIPLE 2V-SVM CLASSIFIERS FOR TISSUE SEGMENTATION
Yusuf Artan, Xiaolei Huang, Lehigh University, United States

TH-PM2-O1.3: DETECTION OF THE DERMIS/EPIDERMIS BOUNDARY IN REFLECTANCE CONFOCAL IMAGES USING MULTI-SCALE CLASSIFIER WITH ADAPTIVE TEXTURE FEATURES
Sila Kurugol, Jennifer Dy, Northeastern University, United States; Milind Rajadhyaksha, Memorial Sloan-Kettering Cancer Cent., United States; Dana H. Brooks, Northeastern University, United States

TH-PM2-O1.4: AUTOMATED GRADING OF BREAST CANCER HISTOPATHOLOGY USING SPECTRAL CLUSTERING WITH TEXTURAL AND ARCHITECTURAL IMAGE FEATURES
Scott Doyle, Shannon Agner, Anant Madabhushi, Rutgers University, United States; Michael Feldman, John Tomaszewski, University of Pennsylvania, United States

TH-PM2-O2: Shape Analysis in Microscopy

TH-PM2-O2.1: DEFORMATION-BASED NONLINEAR DIMENSION REDUCTION: APPLICATIONS TO NUCLEAR MORPHOMETRY
Gustavo K. Rohde, Wei Wang, Tao Peng, Robert F. Murphy, Carnegie Mellon University, United States

TH-PM2-O2.2: CAN VORONOI DIAGRAM MODEL CELL GEOMETRIES IN EARLY SEA-URCHIN EMBRYOGENESIS?
Miguel Angel Luengo-Oroz, Universidad Politécnica de Madrid, Spain; Louise Duloquin, CNRS, France; Carlos Castro, Universidad Politécnica de Madrid, Spain; Thierry Savy, Emmanuel Faure, Benoit Lombardot, Paul Bourgine, Ecole Polytechnique, France; Nadine Peyriéras, CNRS, France; Andrés Santos, Universidad Politécnica de Madrid, Spain

TH-PM2-O2.3: PREDICTION OF POTENTIAL LOCATIONS OF FOCAL ADHESIONS ON THE CONTOUR OF ADHERENT CELLS
Fritz Jetzek, Eleni Mylona, FORTH, Greece; Daphne Manoussaki, FORTH & Technical University of Crete, Greece

TH-PM2-O2.4: A SHAPE ANALYSIS FRAMEWORK FOR SMALL ANIMAL PHENOTYPING WITH APPLICATION TO MICE WITH A TARGETED DISRUPTION OF HOXD11
Joshua Cates, P. Thomas Fletcher, Zachary Warnock, Ross Whitaker, University of Utah, United States

TH-PM2-O3: Cardiac Imaging: Motion and Strain Analysis

TH-PM2-O3.1: COMBINING APICAL AND PARASTERNAL VIEWS TO IMPROVE MOTION ESTIMATION IN REAL-TIME 3D ECHOCARDIOGRAPHIC SEQUENCES
Vicente Grau, Cezary Szmigielski, Harald Becher, J. Alison Noble, University of Oxford, United Kingdom

TH-PM2-O3.2: CONTOUR REGULARIZED LEFT VENTRICULAR STRAIN ANALYSIS FROM CINE MRI
Wei Feng, Thomas S. Denney Jr., Auburn University, United States; Steven Lloyd, Louis Dell'Italia, Himanshu Gupta, Univ. of Alabama at Birmingham, United States

TH-PM2-O3.3: CARDIAC FUNCTION ESTIMATION FOR RESYNCHRONIZATION THERAPY: COMPARISON BETWEEN MULTISLICE-CT AND SPECKLE TRACKING IMAGING

Régis Delaunay, CHU Rennes, INSERM U642, France; Antoine Simon, Alfredo Hernandez, INSERM U642, France; Christophe Leclercq, Erwan Donal, CHU Rennes - INSERM U642, France; Antoine Larralde, CHU Rennes, France; Mireille Garreau, INSERM U642, France

TH-PM2-O3.4: NON-TRACKING-BASED 2D STRAIN ESTIMATION IN TAGGED MRI

Zhen Qian, Dimitris Metaxas, Rutgers University, United States; Leon Axel, New York University, United States

TH-PM2-O4: Elastography

TH-PM2-O4.1: MULTI-FRAME MOTION ESTIMATION FOR FREEHAND ELASTOGRAPHY AND ITS APPLICATION TO THYROID TUMOR IMAGING

Adrian Basarab, CREATIS-LRMN, France; Andrej Lyshchik, Vanderbilt University Medical Center, United States; Philippe Delachartre, CREATIS-LRMN, France

TH-PM2-O4.2: SEGMENTATION OF BREAST CANCER MASSES IN ULTRASOUND USING RADIO-FREQUENCY SIGNAL DERIVED PARAMETERS AND STRAIN ESTIMATES

Etienne von Lavante, J. Alison Noble, University of Oxford, United Kingdom

TH-PM2-O4.3: DEFORMATION IMAGING OF NONINDUCED DOG TUMOR LESIONS DURING FREEHAND SCANNING

Elisabeth Brusseau, Jean-François Deprez, François Duboeuf, CREATIS, France; Fabienne Rigout-Paulik, ENVL, France; Olivier Basset, CREATIS, France

TH-PM2-O4.4: ULTRASOUND STRAIN IMAGING: FROM NANO-SCALE MOTION DETECTION TO MACRO-SCALE FUNCTIONAL IMAGING

Chris de Korte, Richard Lopata, Maartje Nillesen, Gert Weijers, Nancy van Hees, Inge Gerrits, Christos Katsaros, Livia Kapusta, Johan Thijssen, Radboud University Nijmegen Medical Centre, Netherlands

FR-P1a: fMRI

FR-P1a.1: INCREASED SENSITIVITY IN FMRI GROUP ANALYSIS USING MIXED-EFFECT MODELING

Merlin Keller, INRIA, France; Alexis Roche, CEA, France

FR-P1a.2: CONTROLLING THE ERROR IN FMRI: HYPOTHESIS TESTING OR SET ESTIMATION?

Zachary Harmany, Rebecca Willett, Duke University, United States; Aarti Singh, Robert Nowak, University of Wisconsin-Madison, United States

FR-P1a.3: GEOMETRIC DISTORTION CORRECTION IN EPI BY PHASE LABELING USING SENSITIVITY ENCODING (PLUS)

Udomchai Techavipoo, John Lackey, Jianrong Shi, Thomas Leist, Song Lai, Thomas Jefferson University, United States

FR-P1a.4: INVARIANT 3D SPHARM FEATURES FOR CHARACTERIZING FMRI ACTIVATIONS IN ROIS WHILE MINIMIZING EFFECTS OF INTERSUBJECT ANATOMICAL VARIABILITY

Ashish Uthama, Rafeef Abugharbieh, Samantha J Palmer, Anthony Traboulsee, Martin J. McKeown, University of British Columbia, India

FR-P1a.5: FAST PARALLEL IMAGE RECONSTRUCTION USING SMACKER FOR FUNCTIONAL MAGNETIC RESONANCE IMAGING

Quang Tieng, Viktor Vegh, Gary Cowin, Zhengyi Yang, University of Queensland, Australia

FR-P1a.6: SENSITIVITY ANALYSIS OF PARCELLATION IN THE JOINT DETECTION-ESTIMATION OF BRAIN ACTIVITY IN FMRI

Thomas Vincent, Philippe Ciuciu, CEA, France; Bertrand Thirion, INRIA Futurs, France

FR-P1a.7: INFERRING FUNCTIONAL CONNECTIVITY USING SPATIAL MODULATION MEASURES OF FMRI SIGNALS WITHIN BRAIN REGIONS OF INTEREST

Bernard Ng, Rafeef Abugharbieh, Martin J. McKeown, University of British Columbia, Canada

FR-P1a.8: SAMPLING STRATEGY FOR PERFUSION QUANTIFICATION USING PASL-MRI

Patricia Figueiredo, João Sanches, Instituto Superior Tecnico, Portugal

FR-P1a.9: ACTIVATION DETECTION IN FUNCTIONAL MRI BASED ON NON-SEPARABLE SPACE-TIME NOISE MODELS

Joonki Noh, The University of Michigan, United States; Victor Solo, The University of New South Wales, Australia

FR-P1a.10: LIVER METASTASIS EARLY DETECTION USING FMRI BASED STATISTICAL MODEL

Moti Freiman, The Hebrew Univ. of Jerusalem, Israel; Yifat Edrei, Eitan Gross, Hadassah Hebrew University Medical Center, Israel; Leo Joskowicz, The Hebrew Univ. of Jerusalem, Israel; Rinat Abramovitch, Hadassah Hebrew University Medical Center, Israel

FR-P1a.11: AN INFORMATION-BASED CLUSTERING APPROACH FOR FMRI ACTIVATION DETECTION

Lijun Bai, Wei Qin, Jimin Liang, XiDian University, China; Jie Tian, Institute of Automation, Chinese Academy of Sciences, China

FR-P1a.12: MUTUAL INFORMATION-BASED FEATURE SELECTION ENHANCES FMRI BRAIN ACTIVITY CLASSIFICATION

Vincent Michel, Cécilia Damon, Bertrand Thirion, INRIA Saclay Parietal, France

FR-P1a.13: COMPARISON OF TWO DIFFERENT APPROACHES FOR BRAIN ACTIVITY DETECTION IN FMRI: SPM-MAP AND SPM-GLM

João Sanches, David Afonso, Instituto de Sistemas e Robótica / Instituto Superior Técnico, Portugal; Kestutis Bartnykas, Vilnius Gediminas Technical University, Lithuania; Martin Lauterbach, Faculty of Medicine, University of Lisbon, Portugal

FR-P1a.14: ARTERIAL INPUT FUNCTION: RELEVANCE OF ELEVEN ANALYTICAL MODELS IN DCE-MRI STUDIES

Daniel Balvay, Laboratoire de Recherche en Imagerie LRI-EA4062, France; Yannick Ponvianne, Michel Claudon, Imagerie Adaptative Diagnostique et Interventionnelle AIDI-EA 4000, France; Charles A Cuenod, Laboratoire de Recherche en Imagerie LRI-EA4062, France

FR-P1a.15: INFERRING BRAIN DYNAMICS USING GRANGER CAUSALITY ON FMRI DATA
Guillermo Cecchi, Rahul Garg, Ravishankar Rao, IBM Research, United States

FR-P1a.16: INTER-SUBJECT VARIABILITY OF RESTING STATE BRAIN ACTIVITY EXPLORED USING A DATA AND MODEL-DRIVEN APPROACH IN COMBINATION WITH EEG-FMRI
Sonia Goncalves, VU medical centre, Netherlands; Fetsje Bijma, VU Faculty of Sciences, Netherlands; Petra J. W. Pouwels, VU Medical Centre, Netherlands; Marianne A. Jonker, VU Faculty of Sciences, Netherlands; Joost P.A. Kuijer, Rob M. Heethaar, VU Medical Centre, Netherlands; Fernando H. Lopes da Silva, Netherlands Institute for Brain Research, Netherlands; Jan C. de Munck, VU Medical Centre, Netherlands

FR-P1a.17: TRIANGULATING CORTICAL FUNCTIONAL NETWORKS WITH ANATOMICAL LANDMARKS
Alan Tucholka, CEA / Neurospin, France; Bertrand Thirion, INRIA Futurs, France; Philippe Pinel, INSERM UNICOG, France; Jean-Baptiste Poline, Jean-François Mangin, CEA / Neurospin, France

FR-P1a.18: SPATIAL CORRESPONDENCE BASED ASYMMETRY ANALYSIS IN FMRI
Sandhitsu Das, Department of Radiology, University of Pennsylvania, United States; Dawn Mechanic-Hamilton, Marc Korczykowski, Department of Neurology, University of Pennsylvania, United States; Brian Avants, Department of Radiology, University of Pennsylvania, United States; John Detre, Department of Neurology, University of Pennsylvania, United States; James Gee, Paul Yushkevich, Department of Radiology, University of Pennsylvania, United States

FR-P1b: X-ray computed tomography

FR-P1b.19: PEDIATRIC CRANIAL DEFECT SURFACE ANALYSIS FOR CRANIOSYNOSTOSIS POSTOPERATION CT IMAGES
Chia-Chi Teng, Brigham Young University, United States; Linda Shapiro, Richard Hopper, Jon Ver Halen, University of Washington, United States

FR-P1b.20: ESTIMATION OF SHAPE MODEL PARAMETERS FOR 3D SURFACES
Søren G. H. Erbou, Sune Darkner, Technical University of Denmark, Denmark; Jurgen Fripp, CSIRO ICT Centre, Australia; Sébastien Ourselin, University College London, United Kingdom; Bjarne K. Ersbøll, Technical University of Denmark, Denmark

FR-P1b.21: A FAST PARALLEL METHOD FOR MEDICAL IMAGING PROBLEMS INCLUDING LINEAR INEQUALITY CONSTRAINTS
Thomas Capricelli, Laboratoire J.-L. Lions, France

FR-P1b.22: TOWARD QUANTITATIVE VIRTUAL ANGIOGRAPHY: EVALUATION WITH IN VITRO STUDIES
Jerome Durant, Philips Research Europe, France; Irina Waechter, University College London, United Kingdom; Roel Hermans, Philips Medical Systems, Netherlands; Juergen Weese, Philips Research Europe, Germany; Til Aach, RWTH Aachen University, Germany

FR-P1b.23: POLYP DETECTION IN CT COLONOGRAPHY BASED ON SHAPE CHARACTERISTICS AND KULLBACK-LEIBLER DIVERGENCE
Ju Lynn Ong, Abd-Krim Seghouane, National ICT Australia, Australia; Kevin Osborn, Canberra Imaging Group, Australia

FR-P1b.24: TEXTURE COORDINATE GENERATION OF COLONIC SURFACE MESHES FOR SURGICAL SIMULATION

Josh Passenger, Oscar Acosta, Hans de Visser, Sebastian Bauer, Christoph Russ, CSIRO, Australia; Sébastien Ourselin, University College London, United Kingdom

FR-P1b.25: COMPARATIVE ASSESSMENT OF DIFFERENT ENERGY MAPPING METHODS FOR GENERATION OF 511-KEV ATTENUATION MAP FROM CT IMAGES IN PET/CT SYSTEMS: A PHANTOM STUDY

Maryam Shirmohammad, Mohammad Reza Ay, Saeed Sarkar, Deptartment of Medical Physics and Biomedical Engineering, School of Medicine, Medical Sciences/ University of Tehran and Research Center for Science and Technology in Medicine, Medical Sciences/ University of Tehran, Iran; Hossein Ghadiri, Research Center for Science and Technology in Medicine, Medical Sciences/ University of Tehran, Iran; Arman Rahmim, Department of Radiology, School of Medicine, Johns Hopkins University, United States

FR-P1b.26: RIBCAGE CHARACTERIZATION FOR FE USING AUTOMATIC CT PROCESSING

Sven Holcombe, Susumu Ejima, Japan Automobile Research Institute, Japan; Hannu Huhdanpaa, Alexander Jones, Stewart C. Wang, University of Michigan, United States

FR-P1b.27: TEXTURE ANALYSIS OF 3D BLADDER CANCER CT IMAGES FOR IMPROVING RADIOTHERAPY PLANNING

William Nailon, Anthony Redpath, Duncan McLaren, The University of Edinburgh, United Kingdom

FR-P1b.28: REDUCING FALSE POSITIVE RESPONSES IN LUNG NODULE DETECTOR SYSTEM BY ASYMMETRIC ADABOOST

Martin Dolejsi, Jan Kybic, Czech Technical University, Czech Republic; Stanislav Tuma, Michal Polovincak, Faculty Hospital, Motol, Czech Republic

FR-P1b.29: A STATISTICAL IMAGE-BASED APPROACH FOR THE 3D RECONSTRUCTION OF THE SCOLIOTIC SPINE FROM BIPLANAR RADIOGRAPHS

Samuel Kadoury, Farida Cheriet, Ecole Polytechnique of Montreal, Canada; Hubert Labelle, Sainte-Justine Hospital, Canada

FR-P1b.30: KNEE RECONSTRUCTION THROUGH EFFICIENT LINEAR PROGRAMMING

Mihai Sardarescu, Ecole Polytechnique, France; Nikos Paragios, Nikos Komodakis, Ecole Centrale de Paris, France; Remy Raymond, Phillipe Hernigou, Alain Rahmouni, Hopital Henri Mondor, France

FR-P1b.31: MATHEMATICAL MODELING OF ANATOMICAL STRUCTURES BY MEANS OF SPHERICAL HARMONICS

Detlef Richter, Soulimane Abdellaoui, Faisel Bekkaoui, Wiesbaden University of Applied Sciences, Germany; Vlad Monescu, Transilvania University of Brasov, Romania; Gerd Strassmann, University of Marburg, Germany

FR-P1b.32: AUTOMATIC DETECTION OF LIVER TUMORS

Daniel Pescia, Ecole Centrale Paris, Intrasense, France; Nikos Paragios, Ecole Centrale Paris, France; Stéphane Chemouny, Intrasense, France

FR-P1b.33: IMAGE-BASED SIMULATION OF BRAIN ARTERIOVENOUS MALFORMATION HEMODYNAMICS

Piotr Orlowski, J. Alison Noble, Yiannis Ventikos, James Byrne, Paul Summers, University of Oxford, United Kingdom

FR-P1b.34: TOMOSYNTHESIS-BASED RADIOACTIVE SEED LOCALIZATION IN PROSTATE BRACHYTHERAPY USING MODIFIED DISTANCE MAP IMAGES

Junghoon Lee, Xiaofeng Liu, Johns Hopkins University, United States; Ameet Jain, Philips Research North America, United States; Jerry L. Prince, The Johns Hopkins University, United States; Gabor Fichtinger, Queen's University, Canada

FR-P1b.35: MASSIVE-TRAINING ARTIFICIAL NEURAL NETWORKS FOR CAD FOR DETECTION OF POLYPS IN CT COLONOGRAPHY: FALSE-NEGATIVE CASES IN A LARGE MULTICENTER CLINICAL TRIAL

Kenji Suzuki, Mark Epstein, Ivan Sheu, Ryan Kohlbrenner, The University of Chicago, United States; Don Rockey, The University of Texas Southwestern Medical Center, United States; Abraham Dachman, The University of Chicago, United States

FR-P1b.36: SAMPLING STRATEGIES IN MULTIPLE-IMAGE RADIOGRAPHY

Keivan Majidi, Jovan Brankov, Miles Wernick, Illinois Institute of Technology, United States

FR-AM-O1: DTI

FR-AM-O1.1: ADAPTIVE MEAN-SHIFT REGISTRATION OF WHITE MATTER TRACTOGRAPHIES

Orly Zvitia, Arnaldo Mayer, Hayit Greenspan, Tel-Aviv University, Israel

FR-AM-O1.2: DETECTION OF MULTIPLE PATHWAYS IN THE SPINAL CORD WHITE MATTER USING Q-BALL IMAGING

Julien Cohen-Adad, INSERM U678 / Université de Montréal, Canada; Maxime Descoteaux, Odyssée Project Team, INRIA/ENPC/ENS, INRIA Sophia Antipolis, Canada; Serge Rossignol, GRSNC, Department of Physiology, Faculty of Medicine, Université de Montréal, Montreal, QC, Canada, Canada; Richard D. Hoge, Unité de Neuroimagerie Fonctionnelle, CRIUGM, Université de Montréal, Montreal, QC, Canada, Canada; Rachid Deriche, Odyssée Project Team, INRIA/ENPC/ENS, INRIA Sophia Antipolis, Canada; Habib Bénali, INSERM U678, Université Pierre et Marie Curie (Paris VI), CHU Pitié-Salpêtrière, France

FR-AM-O1.3: DTI REGISTRATION WITH EXACT FINITE-STRAIN DIFFERENTIAL

Boon Thye Thomas Yeo, Masschusetts Institute of Technology, United States; Tom Vercauteren, INRIA Sophia Antipolis & Mauna Kea Technologies, France; Pierre Fillard, Xavier Pennec, INRIA Sophia Antipolis, France; Polina Golland, Masschusetts Institute of Technology, United States; Nicholas Ayache, Olivier Clatz, INRIA Sophia Antipolis, France

FR-AM-O1.4: MANIFOLD BASED MORPHOMETRY APPLIED TO SCHIZOPHRENIA

Ragini Verma, Parmeshwar Khurd, James Loughead, Raquel Gur, Ruben Gur, Christos Davatzikos, University of Pennsylvania, United States

FR-AM-O1.5: SURFACE-BASED MODELING OF WHITE MATTER FASCICULI WITH ORIENTATION ENCODING

Hui Zhang, Paul Yushkevich, University of pennsylvania, United States; Tony Simon, University of California, Davis, United States; James Gee, University of pennsylvania, United States

FR-AM-O2: Segmentation in microscopy

FR-AM-O2.1: AUTOMATIC CELL SEGMENTATION FROM CONFOCAL MICROSCOPY IMAGES OF THE ARABIDOPSIS ROOT

Monica Marcuzzo, Pedro Quelhas, INEB-Instituto de Engenharia Biomedica, Portugal; Ana Campilho, Institute of Biotechnology, University of Helsinki, Finland; Ana Maria Mendonça, Aurélio Campilho, INEB-Instituto de Engenharia Biomedica, Portugal

FR-AM-O2.2: AN EFFICIENT ALGORITHM FOR MULTIPLE POLONY DETECTION
H. Leandro Cortes, Gregory Snyder, The University of Chicago, United States

FR-AM-O2.3: SIFT-BASED SEQUENCE REGISTRATION AND FLOW-BASED CORTICAL VESSEL SEGMENTATION APPLIED TO HIGH RESOLUTION OPTICAL IMAGING DATA
Mickaël Pechaud, Ecole Normale Supérieure, France; Ivo Vanzetta, CNRS, France; Thomas Deneux, Weizmann Institute of Science, Israel; Renaud Keriven, École des ponts, France

FR-AM-O2.4: PHASE CONTRAST IMAGE SEGMENTATION BY WEAK WATERSHED TRANSFORM ASSEMBLY
Olivier Debeir, Ivan Adanja, Nadine Warzée, Philippe Van Ham, Christine Decaestecker, Faculty of Applied Sciences, Université Libre de Bruxelles, Belgium

FR-AM-O2.5: UNSUPERVISED SEGMENTATION OF CELL NUCLEI USING GEOMETRIC MODELS
Shaun Fitch, Trevor Jackson, Peter Andras, Craig Robson, Newcastle University, United Kingdom

FR-AM-O3: Deconvolution and Denoising of Microscopy Images

FR-AM-O3.1: DECONVOLUTION OF 3D FLUORESCENCE MICROGRAPHS WITH AUTOMATIC RISK MINIMIZATION
Sathish Ramani, Cédric Vonesch, Michael Unser, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

FR-AM-O3.2: DECONVOLUTION OF CONFOCAL MICROSCOPY IMAGES USING PROXIMAL ITERATION AND SPARSE REPRESENTATIONS
François-Xavier Dupé, Jalal Fadili, GREYC UMR CNRS 6072, France; Jean-Luc Starck, DAPNIA/SEDI-SAP CEA-Saclay, France

FR-AM-O3.3: BLIND DECONVOLUTION FOR DIFFRACTION-LIMITED FLUORESCENCE MICROSCOPY
Praveen Pankajakshan, INRIA Sophia-Antipolis, France; Bo Zhang, Institut Pasteur, France; Laure Blanc-Feraud, INRIA Sophia-Antipolis, France; Zvi Kam, Weizmann Institute of Science,, Israel; Jean-Christophe Olivo-Marin, Institut Pasteur, France; Josiane Zerubia, INRIA Sophia-Antipolis, France

FR-AM-O3.4: INHOMOGENEOUS DECONVOLUTION IN A BIOLOGICAL IMAGES CONTEXT.
Arnaud Ogier, Thierry Dorval, Auguste Genovesio, Institut Pasteur Korea, Republic of Korea

FR-AM-O3.5: NON-PARAMETRIC REGRESSION FOR PATCH-BASED FLUORESCENCE MICROSCOPY IMAGE SEQUENCE DENOISING
Jerome Boulanger, Jean-Baptiste Sibarita, Institut Curie, France; Charles Kervrann, INRIA-IRISA/INRA/MIA, France; Patrick Bouthemy, INRIA-IRISA, France

FR-AM-O4: Reconstruction

FR-AM-O4.1: JOINT RECONSTRUCTION OF NOISY HIGH-RESOLUTION MR IMAGE SEQUENCES
Justin Haldar, Zhi-Pei Liang, University of Illinois at Urbana-Champaign, United States

FR-AM-O4.2: AUTOCALIBRATED REGULARIZED PARALLEL MRI RECONSTRUCTION IN THE WAVELET DOMAIN

Lofti Chaari, Jean-Christophe Pesquet, Amel Benazza-Benyahia, Univ. Paris Est, France; Philippe Ciuciu, CEA, France

FR-AM-O4.3: FLUORESCENCE TOMOGRAPHY: RECONSTRUCTION BY ITERATIVE METHODS

Eduardo Miqueles, Alvaro De Pierro, Unicamp, Brazil

FR-AM-O4.4: CORRECTION OF SOME TIME-DEPENDENT DEFORMATIONS IN PARALLEL-BEAM COMPUTED TOMOGRAPHY

Colas Schretter, Christoph Neukirchen, Matthias Bertram, Philips Research Europe - Aachen., Germany; Georg Rose, Otto-von-Guericke University - Magdeburg, Germany

FR-AM-O4.5: TOMOGRAPHIC IMAGE RECONSTRUCTION FROM LIMITED-VIEW PROJECTIONS WITH WIENER FILTERED FOCUSS ALGORITHM

Rafal Zdunek, Wroclaw University of Technology, Poland; Zhaoshui He, Andrzej Cichocki, RIKEN Brain Science Institute, Japan

FR-PM1-O1: Registration

FR-PM1-O1.1: POINT-SET REGISTRATION OF TAGGED HE-3 IMAGES USING A STRUCTURALLY-BASED JENSEN-SHANNON DIVERGENCE MEASURE WITHIN A DETERMINISTIC ANNEALING FRAMEWORK

Nicholas Tustison, Suyash Awate, University of Pennsylvania, United States; Jing Cai, University of Virginia, United States; Talissa Altes, University of Pennsylvania, United States; G. Wilson Miller, Eduard de Lange, John Mugler III, University of Virginia, United States; James Gee, University of Pennsylvania, United States

FR-PM1-O1.2: INVESTIGATING IMPLICIT SHAPE REPRESENTATIONS FOR ALIGNMENT OF LIVERS FROM SERIAL CT EXAMINATIONS

Nathan Cahill, Grace Vesom, University of Oxford, United Kingdom; Lena Gorelick, Weizmann Institute of Science, Israel; Joanne Brady, Churchill Hospital, United Kingdom; J. Alison Noble, Michael Brady, University of Oxford, United Kingdom

FR-PM1-O1.3: INTENSITY-BASED REGISTRATION OF PROSTATE BRACHYTHERAPY IMPLANTS AND ULTRASOUND

Zahra Karimaghaloo, Gabor Fichtinger, David Gobbi, Queen's University, Canada; Clif Burdette, Acoustic MedSystems, United States; Robert Rohling, University of British Columbia, Canada; Purang Abolmaesumi, Queen's University, Canada

FR-PM1-O1.4: A NOVEL APPROACH FOR GLOBAL REGISTRATION OF MEDICAL IMAGES BASED ON LEARNING THE PRIOR APPEARANCE MODEL

Ayman El-Baz, University of Louisville, United States; Georgy Gimel'farb, University of Auckland, New Zealand

FR-PM1-O1.5: A LANDMARK-BASED NONLINEAR ELASTICITY MODEL FOR MOUSE ATLAS REGISTRATION

Tungyou Lin, University of California, Los Angeles, United States; Erh-Fang Lee, Ivo Dinov, UCLA School of Medicine, United States; Carole Le Guyader, IRMAR, INSA de Rennes, France; Paul M Thompson, UCLA School of Medicine, United States; Arthur W. Toga, Luminita Vese, University of California, Los Angeles, United States

FR-PM1-O1.6: FAST NO GROUND TRUTH IMAGE REGISTRATION ACCURACY EVALUATION: COMPARISON OF BOOTSTRAP AND HESSIAN APPROACHES
Jan Kybic, Czech Technical University, Czech Republic

FR-PM1-O2: Cancer imaging

FR-PM1-O2.1: 3D GENERAL LESION SEGMENTATION IN CT
Marie-Pierre Jolly, Leo Grady, Siemens Corporate Research, United States

FR-PM1-O2.2: SPATIALLY CONSTRAINED SEGMENTATION OF DERMOSCOPY IMAGES
Howard Zhou, Georgia Institute of Technology, United States; Mei Chen, Le Zou, Richard Gass, Intel Research Pittsburgh, United States; Laura Ferris, Laura M. Drogowski, University of PIttsburgh, United States; James M. Rehg, Georgia Institute of Technology, United States

FR-PM1-O2.3: LIVER TUMOR ASSESSMENTWITH DCE-MRI
Liliana Caldeira, João Sanches, Instituto de Sistemas e Robótica / Universidade Tecnica de Lisboa, Portugal

FR-PM1-O2.4: AUTOMATED EVALUATION OF HER-2/NEU IMMUNOHISTOCHEMICAL EXPRESSION IN BREAST CANCER USING DIGITAL MICROSCOPY
Marios Gavrielides, Hela Masmoudi, Nicholas Petrick, Kyle Myers, Stephen Hewitt, FDA, United States

FR-PM1-O2.5: MONITORING SLOWLY EVOLVING TUMORS
Ender Konukoglu, INRIA - Sophia Antipolis, France; William M. Wells, Harvard Medical School, United States; Sebastien Novellas, Nicholas Ayache, INRIA - Sophia Antipolis, France; Ron Kikinis, Peter M. Black, Kilian M. Pohl, Harvard Medical School, United States

FR-PM1-O2.6: BREAST CANCER DETECTION BY TIME REVERSAL IMAGING
Yuanwei Jin, Jose' M. F. Moura, Yi Jiang, Carnegie Mellon University, United States; Michael Wahl, He Zhu, University of Pittsburgh, United States; Qiuhong He, University of Pittsburgh Medical Center, United States

FR-PM-SFS1: Advanced Visualization and Graphics for Biomedical Application

FR-PM-SFS1.1: INTEGRATING VOLUME VISUALIZATION TECHNIQUES INTO MEDICAL APPLICATIONS
Stefan Bruckner, Peter Kohlmann, Vienna University of Technology, Austria; Armin Kanitsar, AGFA HealthCare, Austria; Eduard Gröller, Vienna University of Technology, Austria

FR-PM-SFS1.2: VISUALIZING MORPHOGENESIS AND GROWTH BY TEMPORAL INTERPOLATION OF SURFACE-BASED 3D ATLASES
Chavdar Papazov, Vincent Dercksen, Hans Lamecker, Hans-Christian Hege, Zuse Institute Berlin, Germany

FR-PM-SFS1.3: GEOMETRY-DRIVEN VISUALIZATION OF MICROSCOPIC STRUCTURES IN BIOLOGY
Kishore Mosaliganti, Raghu Machiraju, Kun Huang, The Ohio State University, United States

FR-PM-SFS1.4: MANAGING UNCERTAINTY IN VISUALIZATION AND ANALYSIS OF MEDICAL DATA

Joe Kniss, University of New Mexico, United States

FR-PM-SFS1.5: CUDA: SCALABLE PARALLEL PROGRAMMING FOR HIGH-PERFORMANCE SCIENTIFIC COMPUTING

David Luebke, NVIDIA, United States

FR-PM-SFS2: In Vivo Microscopic Image Analysis

FR-PM-SFS2.1: FROM PARTICLE TRACKING TO MOLECULAR INTERACTIONS

Khuloud Jaqaman, The Scripps Research Institute, United States

FR-PM-SFS2.2: MINIMAL PATHS AND PROBABLISTIC MODELS FOR ORIGIN-DESTINATION TRAFFIC ESTIMATION IN LIVE CELL IMAGING

Thierry Pecot, Charles Kervrann, INRIA-INRA, France; Patrick Bouthemy, INRIA, France

FR-PM-SFS2.3: COMPUTER VISION TRACKING OF STEMNESS

Kang Li, Eric Miller, Carnegie Mellon University, United States; Mei Chen, Intel Research Pittsburgh, United States; Takeo Kanade, Lee Weiss, Phil Campbell, Carnegie Mellon University, United States

FR-PM-SFS2.4: DETECTION OF FULL LENGTH MICROTUBULES IN LIVE MICROSCOPY IMAGES

Sylvain Berlemont, Institut Pasteur / Genomic Vision, France; Régis Tournebize, Institut Pasteur, France; Aaron Bensimon, Genomic Vision, France; Jean-Christophe Olivo-Marin, Institut Pasteur, France

FR-PM-SFS2.5: DOUBLE TIME-SCALE IMAGE RECONSTRUCTION OF THE BEATING AND DEVELOPING EMBRYONIC ZEBRAFISH HEART

Michael Liebling, University of California, Santa Barbara, United States; Julien Vermot, Scott E. Fraser, California Institute of Technology, United States

FR-PM-SFS2.6: AUTOMATIC SUMMARIZATION OF CHANGES IN IMAGE SEQUENCES USING ALGORITHMIC INFORMATION THEORY

Andrew Cohen, Christopher Bjornsson, Ying Chen, Rensselaer Polytechnic Institute, United States; Gary Banker, Oregon Health and Science University, United States; Ena Ladi, Ellen Robey, University of California, Berkeley, United States; Sally Temple, Albany Medical Center, United States; Badrinath Roysam, Rensselaer Polytechnic Institute, United States

FR-P2a: DTI

FR-P2a.1: THE TENSOR DISTRIBUTION FUNCTION

Alex Leow, Siwei Zhu, University of California, Los Angeles, United States; Katie L. McMahon, Greig I. de Zubicaray, Matthew Meredith, Margaret J. Wright, University of Queensland, Australia; Paul M Thompson, University of California, Los Angeles, United States

FR-P2a.2: ROBUST MAXIMUM LIKELIHOOD ESTIMATION IN Q-SPACE MRI

Bennett Landman, Johns Hopkins University School of Medicine, United States; Jonathan Farrell, Johns Hopkins University, United States; Seth Smith, Kennedy Krieger Institute, United States; Peter Calabresi, Johns Hopkins University School of Medicine, United States; Peter van Zijl, Kennedy Krieger Institute, United States; Jerry L. Prince, Johns Hopkins University School of Medicine, United States

FR-P2a.3: MAPPING GENETIC INFLUENCES ON BRAIN FIBER ARCHITECTURE WITH HIGH ANGULAR RESOLUTION DIFFUSION IMAGING (HARDI)

Ming-Chang Chiang, Marina Barysheva, Agatha D. Lee, Sarah K. Madsen, Andrea D. Klunder, Arthur W. Toga, University of California, Los Angeles, United States; Katie L. McMahon, Greig I. de Zubicaray, Matthew Meredith, University of Queensland, Australia; Margaret J. Wright, Queensland Institute of Medical Research, Australia; Anuj Srivastava, Nikolay Balov, Florida State University, United States; Paul M. Thompson, University of California, Los Angeles, United States

FR-P2a.4: REGULARIZED SUPER-RESOLUTION FOR DIFFUSION MRI

Shahrum Nedjati-Gilani, University College London, United Kingdom; Geoff J. M. Parker, University of Manchester, United Kingdom; Daniel Alexander, University College London, United Kingdom

FR-P2a.5: ATLAS BASED SEGMENTATION OF WHITE MATTER FIBER BUNDLES IN DTMRI USING FRACTIONAL ANISOTROPY AND PRINCIPAL EIGEN VECTORS

Esmaeil Davoodi-Bojd, Control and Intelligent Processing Center of Excellence, School of Electrical and Computer Engineering, University of Tehran, Iran; Hamid Soltanian-Zadeh, Image Analysis Laboratory, Radiology Department, Henry Ford Hospital, United States

FR-P2a.6: A GLOBAL APPROACH TO CARDIAC TRACTOGRAPHY

Carole Frindel, Joël Schaerer, Pierre Gueth, Patrick Clarysse, Yue-Min Zhu, Marc Robini, University of Lyon, France

FR-P2a.7: ON THE NON-UNIFORM COMPLEXITY OF BRAIN CONNECTIVITY

Gloria Haro, Universitat Politècnica de Catalunya, Spain; Christophe Lenglet, Siemens Corporate Research, United States; Guillermo Sapiro, University of Minnesota, United States; Paul M Thompson, UCLA School of Medicine, United States

FR-P2a.8: RANDOM WALK MODEL BASED ON DTI FOR PREDICTING THE MICROSCOPIC SPREAD OF GLIOMAS

Anitha Priya Krishnan, Delphine Davis, Paul Okunieff, Walter O'Dell, University of Rochester, United States

FR-P2a.9: AUTOMATICALLY IDENTIFYING WHITE MATTER TRACTS USING CORTICAL LABELS

John Bogovic, Aaron Carass, Jing Wan, Bennett Landman, Jerry L. Prince, The Johns Hopkins University, United States

FR-P2a.10: A STATISTICAL FRAMEWORK TO CHARACTERISE MICROSTRUCTURE IN HIGH ANGULAR RESOLUTION DIFFUSION IMAGING

Sofia Olhede, University College London, United Kingdom; Brandon Whitcher, GlaxoSmithKline, United Kingdom

FR-P2a.11: CONNECTIVITY-BASED PARCELLATION OF THE CORTICAL SURFACE USING Q-BALL IMAGING

Pamela Guevara, CEA, Neurospin, Gif-sur-Yvette, France; Muriel Perrin, GE Healthcare, Buc, France, France; Pascal Cathier, Yann Cointepas, Denis Rivière, Cyril Poupon, Jean-François Mangin, CEA, Neurospin, Gif-sur-Yvette, France

FR-P2a.12: ESTIMATION OF UNCERTAINTY IN CONSTRAINED SPHERICAL DECONVOLUTION FIBER ORIENTATIONS

Ben Jeurissen, University of Antwerp, Belgium; Alexander Leemans, Cardiff University, United Kingdom; Jacques-Donald Tournier, Brain Research Institute, Australia; Jan Sijbers, University of Antwerp, Belgium

FR-P2a.13: FAST DISPLACEMENT PROBABILITY PROFILE APPROXIMATION FROM HARDI USING 4TH-ORDER TENSORS

Angelos Barmpoutis, Baba C. Vemuri, John R. Forder, University of Florida, United States

FR-P2a.14: VALIDATION OF MODELS FOR THE DIFFUSION WEIGHTED MR SIGNAL IN BRAIN WHITE MATTER

Els Fieremans, MEDISIP, Ghent University-IBBT-IBiTech, Belgium; Yves De Deene, QMRI - MEDISIP, Ghent University Hospital, Belgium; Ignace Lemahieu, MEDISIP, Ghent University-IBBT-IBiTech, Belgium

FR-P2a.15: BUNDLES OF INTEREST BASED REGISTRATION OF WHITE MATTER TRACTOGRAPHIES

Arnaldo Mayer, Hayit Greenspan, Tel-Aviv university, Israel

FR-P2a.16: SUPPORT VECTOR DRIVEN MARKOV RANDOM FIELDS TOWARDS DTI SEGMENTATION OF THE HUMAN SKELETAL MUSCLE

Radhouene Neji, Ecole Centrale Paris/ INRIA Saclay/Supelec, France; Gilles Fleury, Supelec, France; Jean Francois Deux, Alain Rahmouni, Guillaume Bassez, CHU Henri Mondor, France; Alexandre Vignaud, Siemens Medical Solutions, France; Nikos Paragios, Ecole Centrale Paris/ INRIA Saclay, France

FR-P2a.17: DIRECTIONAL FUNCTIONS FOR ORIENTATION DISTRIBUTION ESTIMATION

Yogesh Rathi, Harvard Medical School, United States; Oleg Michailovich, University of Waterloo, Canada; Sylvain Bouix, Martha Shenton, Harvard Medical School, United States

FR-P2a.18: A GENERAL INTERPOLATION METHOD FOR SYMMETRIC SECOND-RANK TENSORS IN TWO DIMENSIONS

Susana Merino-Caviedes, Marcos Martín-Fernández, Laboratory of Image Processing, Spain

FR-P2a.19: REGULARIZATION OF DIFFUSION TENSOR IMAGES

Jaime Cisternas, Universidad de los Andes, Chile; Takeshi Asahi, Marcelo Gálvez, Gonzalo Rojas, Universidad de Chile, Chile

FR-P2a.20: ON APPROXIMATION OF ORIENTATION DISTRIBUTIONS BY MEANS OF SPHERICAL RIDGELETS

Oleg Michailovich, University of Waterloo, Canada; Yogesh Rathi, Harvard Medical School, United States

FR-P2a.21: COMPARISON OF FRACTIONAL AND GEODESIC ANISOTROPY IN DIFFUSION TENSOR IMAGES OF 90 MONOZYGOTIC AND DIZYGOTIC TWINS

Agatha D. Lee, Natasha Lepore, Marina Barysheva, Yi-Yu Chou, Caroline Brun, Sarah K. Madsen, University of California, Los Angeles, United States; Katie L. McMahon, Greig Zubicaray, Matthew Meredith, Margaret J. Wright, University of Queensland, Australia; Author Toga, Paul M Thompson, University of California, Los Angeles, United States

FR-P2a.22: MODEL-BASED REGISTRATION TO CORRECT FOR MOTION BETWEEN ACQUISITIONS IN DIFFUSION MR IMAGING

Yu Bai, Daniel Alexander, University College London, United Kingdom

FR-P2a.23: ATLAS-GUIDED PROBABILISTIC DIFFUSION-TENSOR FIBER TRACTOGRAPHY

Philip Cook, Hui Zhang, Suyash Awate, James Gee, University of Pennsylvania, United States

FR-P2a.24: TWO NOVEL METHODS FOR COMPUTING THE 3D CARDIAC MIDWALL
Ryan Dickie, Mirza Faisal Beg, Simon Fraser University, Canada

FR-P2b: Biological image analysis

FR-P2b.25: A SEMI-AUTOMATIC METHOD FOR NEURON CENTERLINE EXTRACTION IN CONFOCAL MICROSCOPIC IMAGE STACK
Ping-Chang Lee, Yu-Tai Ching, National Chiao Tung University, Taiwan; H. M. Chang, Ann-Shyn Chiang, National Tsing Hua University, Taiwan

FR-P2b.26: CHARACTERIZATION OF SPATIAL ORDERING OF CORNEAL STROMA FIBERS
David Freund, Philippe Burlina, Amit Banerjee, JHU APL, United States

FR-P2b.27: 3D REGION GROWING INTEGRATING ADAPTIVE SHAPE PRIOR
Jean-Loïc Rose, Chantal Revol-Muller, CREATIS-LRMN, France; Jean-Baptiste Langlois, Marc Janier, ANIMAGE, France; Christophe Odet, CREATIS-LRMN, France

FR-P2b.28: AUTOMATIC CELL RECOGNITION IN IMMUNOHISTOCHEMICAL GASTRITIS STAINS USING SEQUENTIAL THRESHOLDING AND SVM NETWORK
Tomasz Markiewicz, Warsaw University of Technology, Poland; Cezary Jochymski, Robert Koktysz, Wojciech Kozlowski, Military Institute of the Health Services, Poland

FR-P2b.29: A NEW FILTER FOR SPOT EXTRACTION IN N-DIMENSIONAL BIOLOGICAL IMAGING
Eric Biot, Elizabeth Crowell, Herman Höfte, Yves Maurin, Samantha Vernhettes, Philippe Andrey, INRA, France

FR-P2b.30: MULTIRESOLUTION IDENTIFICATION OF GERM LAYER COMPONENTS IN TERATOMAS DERIVED FROM HUMAN AND NONHUMAN PRIMATE EMBRYONIC STEM CELLS
Amina Chebira, Carnegie Mellon University, United States; John A. Ozolek, Children's Hospital of Pittsburgh, University of Pittsburgh, United States; Carlos A. Castro, Magee-Womens Research Institute and Foundation, Univeristy of Pittsbrugh, United States; William G. Jenkinson, Johns Hopkins University, United States; Mukta Gore, Ramamurthy Bhagavatula, Irina Khaimovich, Shauna E. Ormon, Carnegie Mellon University, United States; Christopher S. Navara, Meena Sukhwani, Kyle E. Orwig, Ahmi Ben-Yehudah, Gerald Schatten, Magee-Womens Research Institute and Foundation, Univeristy of Pittsbrugh, United States; Gustavo K. Rohde, Jelena Kovacevic, Carnegie Mellon University, United States

FR-P2b.31: FLEXIBLE IMAGE REGISTRATION FOR THE IDENTIFICATION OF BEST FITTED PROTEIN MODELS IN 3D-EM MAPS
Laura Fernández-de-Manuel, María J. Ledesma-Carbayo, Universidad Politécnica de Madrid, Spain; Julián Atienza-Herrero, Carlos O. S. Sorzano, José-María Carazo, Centro Nacional de Biotecnología, Spain; Andrés Santos, Universidad Politécnica de Madrid, Spain

FR-P2b.32: THREE-DIMENSIONAL RECONSTRUCTION OF SERIAL HISTOLOGICAL MOUSE BRAIN SECTIONS
M. Mallar Chakravarty, Barry J. Bedell, Simone P. Zehntner, Alan C. Evans, D. Louis Collins, McConnell Brain Imaging Center, Canada

FR-P2b.33: FULLY AUTOMATIC 3D RECONSTRUCTION OF HISTOLOGICAL IMAGES
Ulas Bagci, Li Bai, Collaborative Medical Image Analysis on Grid, United Kingdom

FR-P2b.34: TRACKING OF CELLS IN A SEQUENCE OF IMAGES USING A LOW-DIMENSION IMAGE REPRESENTATION

Maël Primet, Alice Demarez, François Taddei, Ariel Lindner, Lionel Moisan, Paris Descartes University, France

FR-P2b.35: CLASSIFICATION OF BREAST-TISSUE MICROARRAY SPOTS USING COLOUR AND LOCAL INVARIANTS

Telmo Amaral, Stephen McKenna, Katherine Robertson, Alastair Thompson, University of Dundee, United Kingdom

FR-P2b.36: IMPROVING SINGLE PARTICLE LOCALIZATION WITH AN EMPIRICALLY CALIBRATED GAUSSIAN KERNEL

Marcio de Moraes Marim, Bo Zhang, Jean-Christophe Olivo-Marin, Christophe Zimmer, Institut Pasteur, France

FR-P2b.37: A MULTI-THREADED PROGRAM ARCHITECTURE FOR AN ANSYNCHRONOUS AND HIGHLY RESPONSIVE GUI FOR AUTOMATIC NEURONAL SURVIVAL QUANTIFICATION

Fabrice de Chaumont, Nicolas Chenouard, Aurelie Mouret, Pierre Marie Lledo, Jean-Christophe Olivo-Marin, Institut Pasteur, France

FR-P2b.38: CURVILINEAR MORPHO-HESSIAN FILTER

Olena Tankyevych, Hugues Talbot, ESIEE, France; Petr Dokladal, CMM, France

FR-PM2-O1: Parallel MRI

FR-PM2-O1.1: DYNAMIC-PARALLEL MR IMAGE RECONSTRUCTION BASED ON ADAPTIVE COIL SENSITIVITY ESTIMATION

Ke Liu, Jingxin Zhang, Monash University, Australia

FR-PM2-O1.2: GENERALIZED RECONSTRUCTION BY INVERSION OF COUPLED SYSTEMS (GRICS) APPLIED TO PARALLEL MRI

Freddy Odille, Pierre-André Vuissoz, Jacques Felblinger, Nancy University and INSERM ERI 13, France; David Atkinson, University College London, United Kingdom

FR-PM2-O1.3: TIME-RESOLVED PARALLEL IMAGING WITH A REDUCED DYNAMIC FIELD OF VIEW

Lei Hamilton, Georgia Institute of Technology, United States; Javier Acebron Fabregat, David Moratal, Universidad Politecnica de Valencia, Spain; Senthil Ramamurthy, Children's Healthcare of Atlanta, United States; Marijn Brummer, Emory University, School of Medicine, United States

FR-PM2-O1.4: A VARIABLE PROJECTION APPROACH TO PARALLEL MAGNETIC RESONANCE IMAGING

Jinhua Sheng, Leslie Ying, University of Wisconsin - Milwaukee, United States

FR-PM2-O2: PET: reconstruction

FR-PM2-O2.1: ITERATIVE NONLINEAR LEAST SQUARES ALGORITHMS FOR DIRECT RECONSTRUCTION OF PARAMETRIC IMAGES FROM DYNAMIC PET

Guobao Wang, Jinyi Qi, University of California, Davis, United States

FR-PM2-O2.2: SIMULTANEOUS RECONSTRUCTION AND SEGMENTATION ALGORITHM FOR POSITRON EMISSION TOMOGRAPHY AND TRANSMISSION TOMOGRAPHY
Dominique Van de Sompel, Michael Brady, Oxford University, United Kingdom

FR-PM2-O2.3: MULTIPLICATIVE ITERATIVE ALGORITHMS FOR POSITIVE CONSTRAINED RECONSTRUCTIONS IN EMISSION AND TRANSMISSION TOMOGRAPHY
Jun Ma, Macquarie University, Australia, Australia

FR-PM2-O2.4: BAYESIAN PET IMAGE RECONSTRUCTION INCORPORATING ANATO-FUNCTIONAL JOINT ENTROPY
Jing Tang, Benjamin M. W. Tsui, Arman Rahmim, The Johns Hopkins University, United States

FR-PM2-O3: Vascular image processing

FR-PM2-O3.1: TEMPLATE-BASED MULTIPLE HYPOTHESES TRACKING OF SMALL VESSELS
Ola Friman, Milo Hindennach, Heinz-Otto Peitgen, MeVis Research, Germany

FR-PM2-O3.2: CAROTID PLAQUE TISSUE DIFFERENTIATION BASED ON RADIOFREQUENCY ECHOGRAPHIC SIGNAL LOCAL SPECTRAL CONTENT (RULES: RADIOFREQUENCY ULTRASONIC LOCAL ESTIMATORS)
Leonardo Masotti, Elena Biagi, Simona Granchi, Alessandra Luddi, Luca Breschi, Rodolfo Facchini, Università degli Studi di Firenze, Italy

FR-PM2-O3.3: A LEARNING BASED HIERARCHICAL MODEL FOR VESSEL SEGMENTATION
Richard Socher, Adrian Barbu, Dorin Comaniciu, Siemens Corporate Research, United States

FR-PM2-O3.4: FULLY AUTOMATIC 3D SEGMENTATION OF CORONARY ARTERIES BASED ON MATHEMATICAL MORPHOLOGY
Bessem Bouraoui, C. Ronse, Image Sciences, Computer Sciences and Remote Sensing Laboratory, France; J. Baruthio, Nicolas Passat, LINC, UMR ULP-CNRS 7191, France; Ph. Germain, Service Radiologie, CHU Strasbourg, France

FR-PM2-O4: EEG-MEG

FR-PM2-O4.1: NON-INVASIVE CLASSIFICATION OF CORTICAL ACTIVITIES FOR BRAIN COMPUTER INTERFACE: A VARIABLE SELECTION APPROACH
Michel Besserve, Jacques Martinerie, Line Garnero, CNRS, France

FR-PM2-O4.2: A TWO-STEP IMAGING PROCEDURE FOR MEG CHARACTERIZATION OF CORTICAL CURRENTS: LOCATION AND SPATIAL EXTENT.
Sheraz Khan, Benoit Cottereau, Cognitive Neuroscience & Brain Imaging Laboratory, CNRS, France; Richard M. Leahy, University of Southern California, United States; John C. Mosher, Los Alamos National Laboratory, United States; Habib Ammari, Laboratoire Ondes et Acoustique, CNRS & ESPCI, France; Sylvain Baillet, Cognitive Neuroscience & Brain Imaging Laboratory, CNRS, France

FR-PM2-O4.3: CORTICAL FLOW: INVESTIGATING THE SPATIOTEMPORAL DYNAMICS OF THE BRAIN
Julien Lefèvre, Sylvain Baillet, Cognitive Neuroscience & Brain Imaging Laboratory, CNRS-LENA, UPMC Univ Paris 06, France

FR-PM2-O4.4: EEG SOURCE LOCALIZATION BY MULTI-PLANAR ANALYTIC SENSING
Djano Kandaswamy, Thierry Blu, EPFL, Switzerland; Laurent Spinelli, Christoph Michel, HUGE, Switzerland; Dimitri Van De Ville, EPFL, Switzerland

SA-P1a: Registration

SA-P1a.1: ON THE REGISTRABILITY OF TWO CT VOLUMES
Diego Fiorin, Marie-Pierre Jolly, Charles Florin, Siemens Corporate Research, United States

SA-P1a.2: GAUSS-NEWTON OPTIMIZATION IN DIFFEOMORPHIC REGISTRATION
Monica Hernandez, Salvador Olmos, University of Zaragoza, Spain

SA-P1a.3: LOCAL SIMILARITY MEASURES FOR DEMONS-LIKE REGISTRATION ALGORITHMS
Antonio Tristán-Vega, Gonzalo Vegas-Sánchez-Ferrero, Santiago Aja-Fernández, Laboratory of Image Processing, Spain

SA-P1a.4: VALIDATING UNBIASED REGISTRATION ON LONGITUDINAL MRI SCANS FROM THE ALZHEIMER'S DISEASE NEUROIMAGING INITIATIVE (ADNI)
Igor Yanovsky, University of California, Los Angeles, United States; Paul M Thompson, UCLA School of Medicine, United States; Stanley Osher, University of California, Los Angeles, United States; Xue Hua, David Shattuck, Arthur W. Toga, Alex Leow, UCLA School of Medicine, United States

SA-P1a.5: A NON-LINEAR REGISTRATION METHOD FOR DCE-MRI AND DCE-CT COMPARISON IN BLADDER TUMORS
Katia Passera, Luca Mainardi, Politecnico di Milano, Italy; Deirdre Mcgrath, Josephine Naish, David L. Buckley, Susan Cheung, Yvon Watson, Angela Caunce, Giovanni Buonaccorsi, University of Manchester, United Kingdom; John P. Logue, Marcus B. Taylor, Christie Hospital, United Kingdom; Chris Taylor, University of Manchester, United Kingdom; John C Waterton, Helen Young, AstraZeneca, United Kingdom; Geoff J. M. Parker, University of Manchester, United Kingdom

SA-P1a.6: REGULARIZED METHODS FOR TOPOLOGY-PRESERVING SMOOTH NONRIGID IMAGE REGISTRATION USING B-SPLINE BASIS
Se Young Chun, Jeffrey Fessler, University of Michigan, United States

SA-P1a.7: COLORECTAL MRI IMAGE REGISTRATION USING PHASE MUTUAL INFORMATION FROM NON-PARAMETRIC PROBABILITY DENSITY FUNCTION ESTIMATOR
Weiwei Zhang, Niranjan Joshi, Michael Brady, University of Oxford, United Kingdom

SA-P1a.8: DEFORMATION BASED MORPHMETRY AND ATLAS BASED LABEL SEGMENTATION: APPLICATION TO SERIAL MOUSE BRAIN IMAGES
Satheesh Maheswaran, Imperial College London, United Kingdom; Herve Barjart, Simon Bate, Neurology & Gastrointestinal Centre of Excellence for Drug Discovery, United Kingdom; Thomas Hartkens, Derek Hill, Ixico Ltd, United Kingdom; Lorna Tilling, Neil Upton, Michael F. James, Neurology & Gastrointestinal Centre of Excellence for Drug Discovery, United Kingdom; Jo Hajnal, Daniel Rueckert, Imperial College London, United Kingdom

SA-P1a.9: ADAPTIVE NON-RIGID REGISTRATION OF 3D KNEE MRI IN DIFFERENT POSE SPACES
Taehyun Rhee, University of Southern California, United States; J. P. Lewis, Weta Digital, New Zealand; Krishna Nayak, Ulrich Neumann, University of Southern California, United States

SA-P1a.10: A NEW REGISTRATION METHOD BASED ON LOG-EUCLIDEAN TENSOR METRICS AND ITS APPLICATION TO GENETIC STUDIES

Caroline Brun, Natasha Lepore, Laboratory of Neuro Imaging, United States; Xavier Pennec, INRIA Sophia Antipolis, France; Yi-Yu Chou, Agatha D. Lee, Laboratory of Neuro Imaging, United States; Greig deZubicaray, Center for Magnetic Resonance, Australia; Katie L. McMahon, Margaret J. Wright, University of Queensland, Australia; Marina Barysheva, Arthur W. Toga, Paul M Thompson, Laboratory of Neuro Imaging, United States

SA-P1a.11: REGISTRATION OF DYNAMIC RENAL MR IMAGES USING NEUROBIOLOGICAL MODEL OF SALIENCY

Dwarikanath Mahapatra, Ying Sun, National University of Singapore, Singapore

SA-P1a.12: ROBUST IMAGE REGISTRATION BASED ON A PARTITION OF UNITY FINITE ELEMENT METHOD

Oudom Somphone, Sherif Makram-Ebeid, Medisys Research Lab, Philips Healthcare, France; Laurent Cohen, CEREMADE – Universite Paris IX Dauphine, France

SA-P1a.13: MULTI-SCALE DIFFEOMORPHIC CORTICAL REGISTRATION UNDER MANIFOLD SULCAL CONSTRAINTS

Guillaume Auzias, Cognitive Neuroscience & Brain Imaging Laboratory, CNRS; UPMC Univ Paris 06; Hôpital de la Salpêtrière, France; Joan Alexis Glaunès, MAP5, Université Paris 5 - René Descartes, France; Arnaud Cachia, Research Unit of Neuroimaging & Psychiatry,Inserm-CEA, France; Pascal Cathier, NeuroSpin, CEA, France; Eric Bardinet, Olivier Colliot, Neuroscience & Brain Imaging Laboratory, CNRS; UPMC Univ Paris 06; Hôpital de la Salpêtrière, France; Jean-François Mangin, NeuroSpin, CEA, France; Alain Trouvé, CMLA, ENS de Cachan, France; Sylvain Baillet, Neuroscience & Brain Imaging Laboratory, CNRS; UPMC Univ Paris 06; Hôpital de la Salpêtrière, France

SA-P1a.14: A METHOD FOR FRAME-BY-FRAME US TO CT REGISTRATION IN A JOINT CALIBRATION AND REGISTRATION FRAMEWORK

Matthias Peterhans, Haydar Talib, MEM Research Center, Switzerland; Marius G. Linguraru, National Institute of Health, United States; Martin Styner, Departments of Computer Science and Psychiatry, United States; Miguel A. González Ballester, MEM Research Center, Switzerland

SA-P1a.15: GEOMETRIC ALIGNMENT OF 2D GEL ELECTROPHORESIS IMAGES USING PHYSICS-BASED ELASTIC REGISTRATION

Stefan Wörz, Marie-Luise Winz, Karl Rohr, University of Heidelberg, BIOQUANT, IPMB, and DKFZ Heidelberg, Germany

SA-P1a.16: AN ALGORITHM TO MAP ASYMMETRIES OF BILATERAL OBJECTS IN POINT CLOUDS

Benoit Combès, INRIA, France; Robin Hennessy, John Waddington, RCSI, Ireland; Neil Roberts, Mariarc, United Kingdom; Sylvain Prima, INRIA, France

SA-P1a.17: COMPARISON OF THE DEFORMATIONS OF BRAIN TISSUES CAUSED BY TUMOR IN SEIZURE AND NON-SEIZURE PATIENTS

Julien Dauguet, Brigham and Women's Hospital, United States; Simon K. Warfield, Children's Hospital, United States; Edward Bromfield, Alexandra Golby, Jong Woo Lee, Brigham and Women's Hospital, United States

SA-P1a.18: MUTUAL INFORMATION BASED NON-RIGID MOUSE REGISTRATION USING A SCALE-SPACE APPROACH

Sangeetha Somayajula, Anand Joshi, Richard M. Leahy, University of Southern California, United States

SA-P1a.19: PROMISING RESULTS FOR EARLY DIAGNOSIS OF LUNG CANCER

Ayman El-Baz, University of Louisville, United States; Georgy Gimel'farb, University of Auckland, New Zealand; Robert. Falk, Jewish Hospital, United States; Mohamed Abou El-Ghar, Huda Refaie, University of Mansoura, Egypt

SA-P1a.20: GENERATIVE ATLASES AND ATLAS SELECTION FOR C11-PIB PET-PET REGISTRATION OF ELDERLY, MILD COGNITIVE IMPAIRED AND ALZHEIMER DISEASE PATIENTS

Jurgen Fripp, Pierrick Bourgeat, Oscar Acosta, The Australian e-Health Research Centre, Australia; Gareth Jones, Victor Villemagne, Austin Hospital, Australia; Sébastien Ourselin, University College London, United Kingdom; Chris Rowe, Austin Hospital, Australia; Olivier Salvado, The Australian e-Health Research Centre, Australia

SA-P1a.21: TRACKING ORGAN OVERLAP FOR A CONSTRAINED NON-RIGID REGISTRATION ALGORITHM

William Harvey Greene, Sudhakar Chelikani, Xenophon Papademetris, Lawrence Staib, Jonathan Knisely, James Duncan, Yale University, United States

SA-P1a.22: DEFORMABLE REGISTRATION WITH SPATIALLY VARYING DEGREES OF FREEDOM CONSTRAINTS

James Miller, Girish Gopalakrishnan, Manasi Datar, Paulo Mendonca, Rakesh Mullick, GE Global Research, United States

SA-P1a.23: INTERSECTION BASED REGISTRATION OF SLICE STACKS TO FORM 3D IMAGES OF THE HUMAN FETAL BRAIN

Kio Kim, Mads Hansen, Piotr Habas, University of California, San Francisco, United States; Francois Rousseau, Universite Louis Pasteur, France; Orit Glenn, A. James Barkovich, Colin Studholme, University of California, San Francisco, United States

SA-P1a.24: AUTOMATIC CO-REGISTRATION OF VOLUMETRIC IMAGES BASED ON IMPLANTED FIDUCIAL MARKERS

Martin Koch, Jonathan Maltz, Siemens Medical Solutions (USA), Inc., United States; Serge Belongie, University of California, San Diego, United States; Bijumon Gangadharan, Supratik Bose, Himanshu Shukla, Ali Bani-Hashemi, Siemens Medical Solutions (USA), Inc., United States

SA-P1a.25: APPLICATION AND VALIDATION OF REGISTRATION FRAMEWORK FOR REAL-TIME ATLAS GUIDED BIOPSY

Ramkrishnan Narayanan, Eigen LLC, United States; Dinggang Shen, Christos Davatzikos, University of Pennsylvania, United States; David Crawford, Albaha Barqawi, Priya Werahera, University of Colorado, United States; Dinesh Kumar, Eigen LLC, United States; Jasjit Suri, Eigen, LLC, United States

SA-P1a.26: GROUP-WISE MDL BASED REGISTRATION OF SMALL ANIMALS IN VIDEO SEQUENCES

Yuan Han, Georg Langs, Nikos Paragios, Ecole Centrale de Paris, France

SA-P1a.27: SPATIAL NORMALISATION OF THREE-DIMENSIONAL NEUROANATOMICAL MODELS USING SHAPE REGISTRATION, AVERAGING, AND WARPING

Philippe Andrey, Emeric Maschino, Yves Maurin, INRA, France

SA-P1b: Computer aided detection and diagnosis

SA-P1b.28: ULTRASOUND IMAGING-BASED PROCEDURE TO INTEGRATE THE DYNAMIC BEHAVIOR OF THE PELVIS IN TOTAL HIP ARTHROPLASTY PLANNING

Guillaume Dardenne, Chafiaa Hamitouche, Eric Stindel, Christian Roux, LaTIM, France

SA-P1b.29: APPLICATION OF LAWS' MASKS TO BONE TEXTURE ANALYSIS: AN INNOVATIVE IMAGE ANALYSIS TOOL IN OSTEOPOROSIS

Mouna Rachidi, Christine Chappard, IINSERM Unit 658, France; Arnaud Marchadier, INSERM Unit 658, France; Clotilde Gadois, D3A® Medical Systems, France; Eric Lespessailles, CHR-Orleans, France; Claude-Laurent Benhamou, INSERM Unit 658, France

SA-P1b.30: SUPPORT VECTOR MACHINE FOR DATA ON MANIFOLDS: AN APPLICATION TO IMAGE ANALYSIS

Suman Sen, Mark Foskey, James Marron, Martin Styner, University of North Carolina, Chapel Hill, United States

SA-P1b.31: 3D MULTIFRACTAL ANALYSIS: APPLICATION FOR EPILEPSY DETECTION IN SPECT IMAGING

Renaud Lopes, Nasr Makni, INSERM U703 and LAGIS CNRS UMR 8146, France; Romain Viard, INSERM U703, France; Marc Steinling, Nuclear Medicine Department, France; Salah Maouche, LAGIS CNRS UMR 8146, France; Nacim Betrouni, Inserm U703, France

SA-P1b.32: ACOUSTICAL POWER COMPUTATION ACCELERATION TECHNIQUES FOR THE PLANNING OF ULTRASOUND THERAPY

Jean-Louis Dillenseger, Carole Garnier, université de Rennes 1, France

SA-P1b.33: A STOCHASTIC BONE REMODELING PROCESS

Anne Ricordeau, Nedra Mellouli, PARIS 5 UNIVERSITY, France

SA-P1b.34: CLASSIFICATION OF LAYERED TISSUE PHANTOMS FOR DETECTION OF CHANGES IN EPITHELIAL TISSUE BELOW THE SURFACE USING A STOCHASTIC DECOMPOSITION MODEL FOR SCATTERED SIGNAL

Fernand S. Cohen, Ezgi Taslidere, Sreekant Murthy, Drexel University, United States

SA-P1b.35: LEARNING NON-HOMOGENOUS TEXTURES AND THE UNLEARNING PROBLEM WITH APPLICATION TO DRUSEN DETECTION IN RETINAL IMAGES

Noah Lee, Andrew F. Laine, Theodore R. Smith, Columbia University, United States

SA-P1b.36: IDENTIFICATION OF SKIN LESIONS FROM THE TRANSIENT THERMAL RESPONSE USING INFRARED IMAGING TECHNIQUE

Muge Pirtini Cetingul, Cila Herman, Johns Hopkins University, United States

SA-P1b.37: ON THE UNCERTAINTY IN SEQUENTIAL HYPOTHESIS TESTING

Ricardo Santiago Mozos, Ramón Fernández Lorenzana, Universidad Carlos III de Madrid, Spain; Fernando Pérez Cruz, Princeton University, United States; Antonio Artés Rodríguez, Universidad Carlos III de Madrid, Spain

SA-P1b.38: SIMULATION RESULTS OF A SMALL ANIMAL LIQUID XENON PET DETECTOR

Yannick Grondin, INPG, France; Michel Desvignes, INPG-ENSERG, France; Laurent Desbat, UJF, France; Stéphane Mancini, INPG / LIS, France; Marie-Laure Gallin-Martel, Laurent Gallin-Martel, Olivier Rossetto, CNRS/INPG, France

SA-P1b.39: THREE-DIMENSIONAL ULTRASOUND IMAGING OF REGENERATED SKIN WITH HIGH FREQUENCY ULTRASOUND

Yoshifumi Saijo, Yoshihiro Hagiwara, Tohoku University, Japan; Kazuto Kobayashi, Nagaya Okada, Honda Electronics Co. Ltd., Japan; Akira Tanaka, Fukushima University, Japan; Naohiro Hozumi, Aichi Institute of Technology, Japan; Takahiro Iwamoto, Tohoku University, Japan

SA-P1b.40: ESTIMATION OF CORTICAL MULTIVARIATE AUTOREGRESSIVE MODELS FOR EEG/MEG USING AN EXPECTATION-MAXIMIZATION ALGORITHM

Bing Leung Patrick Cheung, Barry Van Veen, University of Wisconsin - Madison, United States

SA-P1b.41: POST-IMAGE ACQUISITION MITIGATION OF EXCITATION LIGHT LEAKAGE IN PATTERNED ILLUMINATION BASED NIR FLUORESCENCE TOMOGRAPHY

Marc Bartels, Amit Joshi, John Rasmussen, Baylor College of Medicine, United States; Wolfgang Bangerth, Texas A&M University, United States; Eva Sevick, Baylor College of Medicine, United States

SA-P1b.42: INVESTIGATION OF LABR3:CE AND LACL3:CE SCINTILLATORS FOR SPECT IMAGING

Khalid Alzimami, Nicholas Spyrou, University of Surrey, United Kingdom; Salem Sassi, The Royal Marsden NHS Foundation Trust, United Kingdom

SA-AM-O1: fMRI

SA-AM-O1.1: NEDICA: DETECTION OF GROUP FUNCTIONAL NETWORKS IN FMRI USING SPATIAL INDEPENDENT COMPONENT ANALYSIS

Vincent Perlbarg, Guillaume Marrelec, INSERM/UPMC, France; Julien Doyon, Université de Montréal, Canada; Mélanie Pélégrini-Issac, INSERM/UPMC, France; Stéphane Lehéricy, UPMC/CENIR, France; Habib Bénali, INSERM/UPMC, France

SA-AM-O1.2: EXAMINING ASSOCIATIONS BETWEEN FMRI AND EEG DATA USING CANONICAL CORRELATION ANALYSIS

Nicolle Correa, Yi-Ou Li, Tulay Adali, University of Maryland, Baltimore County, United States; Vince Calhoun, The Mind Institute and the University of New Mexico, United States

SA-AM-O1.3: FMRI BRAIN ACTIVITY AND UNDERLYING HEMODYNAMICS ESTIMATION IN A NEW BAYESIAN FRAMEWORK

David Afonso, João Sanches, Instituto de Sistemas e Robótica / Universidade Tecnica de Lisboa, Portugal; Martin Lauterbach, Faculdade de Medicina de Lisboa, Portugal

SA-AM-O1.4: DEVELOPMENT OF FMRI TECHNIQUES FOR PLANNING IN FUNCTIONAL NEUROSURGERY FOR PARKINSON'S DISEASE

M. Mallar Chakravarty, Pedro Rosa-Neto, Scott Broadbent, Alan C. Evans, D. Louis Collins, McConnell Brain Imaging Center, Canada

SA-AM-O1.5: IMPROVED FMRI GROUP STUDIES BASED ON SPATIALLY VARYING NON-PARAMETRIC BOLD SIGNAL MODELING

Philippe Ciuciu, Thomas Vincent, Anne-Laure Fouque, Alexis Roche, CEA, France

SA-AM-O2: Organ modeling

SA-AM-O2.1: ORGAN APPROXIMATION IN µCT DATA WITH LOW SOFT TISSUE CONTRAST USING AN ARTICULATED WHOLE-BODY ATLAS

Martin Baiker, Jouke Dijkstra, Ivo Que, Clemens Lowik, Johan Reiber, Boudewijn Lelieveldt, Leiden University Medical Center, Netherlands

SA-AM-O2.2: LANDMARK SELECTION FOR SHAPE MODEL CONSTRUCTION VIA EQUALIZATION OF VARIANCE

Sylvia Rueda, University of Nottingham, United Kingdom; Jayaram Udupa, University of Pennsylvania, United States; Li Bai, University of Nottingham, United Kingdom

SA-AM-O2.3: THREE DIMENSIONAL MODELING OF THE LEFT VENTRICLE OF THE HEART USING SPHERICAL HARMONIC ANALYSIS

Wafa Bel Hadj Khélifa, Asma Ben Abdallah, Faouzi Ghorbel, ENSI, Tunisia

SA-AM-O2.4: AUTOMPR: AUTOMATIC DETECTION OF STANDARD PLANES IN 3D ECHOCARDIOGRAPHY

Xiaoguang Lu, Bogdan Georgescu, Yefeng Zheng, Siemens Corporate Research, United States; Joanne Otsuki, Siemens Medical Solutions, United States; Dorin Comaniciu, Siemens Corporate Research, United States

SA-AM-O2.5: MINIMUM DESCRIPTION LENGTH WITH LOCAL GEOMETRY

Martin Styner, Ipek Oguz, UNC Chapel Hill, United States; Tobias Heimann, DKFZ, Germany; Guido Gerig, University of Utah, United States

SA-AM-O3: Ultrasound imaging (statistical methods, filtering, segmentation)

SA-AM-O3.1: USER PARAMETER FREE APPROACHES TO MULTISTATIC ADAPTIVE ULTRASOUND IMAGING

Lin Du, Jian Li, University of Florida, United States; Petre Stoica, Uppsala University, Sweden

SA-AM-O3.2: BAYESIAN NON LOCAL MEANS-BASED SPECKLE FILTERING

Pierrick Coupé, University of Rennes I, France; Pierre Hellier, INRIA, France; Charles Kervrann, INRA, France; Christian Barillot, CNRS, France

SA-AM-O3.3: LOCAL WALL MOTION CLASSIFICATION OF STRESS ECHOCARDIOGRAPHY USING A HIDDEN MARKOV MODEL APPROACH

Sarina Mansor, J. Alison Noble, Institute of Biomedical Engineering, United Kingdom

SA-AM-O3.4: OPTIMIZATION OF CONTRAST SENSITIVITY AND SPECIFICITY OF QUADRATIC ULTRASONIC IMAGING

Mamoun Al-Mistarihi, Jordan University of Science and Technology, Jordan

SA-AM-O3.5: NEURAL NETWORK ANALYSIS APPLIED TO TUMOR SEGMENTATION ON 3D BREAST ULTRASOUND IMAGES

Sheng-Fang Huang, Yen-Ching Chen, Tzu Chi University, Taiwan; Woo Kyung Moon, Seoul Nation University Hospital, Republic of Korea

SA-AM-O4: PET imaging

SA-AM-O4.1: ANALYTIC SYSTEM MATRIX RESOLUTION MODELING IN PET: AN APPLICATION TO RB-82 CARDIAC IMAGING

Arman Rahmim, Martin Lodge, Jing Tang, Johns Hopkins University, United States; Sahel Lashkari, Mohammad Reza Ay, Medical Sciences University of Tehran, United States

SA-AM-O4.2: A RESIDUAL CORRECTION METHOD FOR ITERATIVE RECONSTRUCTION WITH INACCURATE SYSTEM MODEL

Lin Fu, Jinyi Qi, University of California, Davis, United States

SA-AM-O4.3: APPLICATION OF A SPATIALLY VARIANT SYSTEM MODEL FOR 3-D WHOLE-BODY PET IMAGE RECONSTRUCTION

Adam Alessio, Paul Kinahan, University of Washington, United States

SA-AM-O4.4: CONDITIONAL PARTIAL VOLUME EFFECT CORRECTION FOR EMISSION TOMOGRAPHY: A WAVELET-BASED HIDDEN MARKOV MODEL AND MULTI-RESOLUTION APPROACH

Adrien Le Pogam, INSERM U619, France; Mathieu Hatt, Nicolas Boussion, INSERM U650, France; Denis Guilloteau, Jean-Louis Baulieu, Caroline Prunier, INSERM U619, France; Frederico Turkheimer, Imperial College, Hammersmith Hospital, United Kingdom; Dimitris Visvikis, INSERM U650, France

SA-AM-O4.5: AW-OSEM PARAMETER OPTIMIZATION FOR SELECTED EVENTS RELATED TO THE BREATH-HOLD CT POSITION IN RESPIRATORY-GATED PET ACQUISITIONS

Joël Daouk, Loïc Fin, Pascal Bailly, Marc-Etienne Meyer, University Hospital of Amiens, France

SA-PM1-O1: Microscopic Image Analysis

SA-PM1-O1.1: STATISTICAL COLOCALIZATION IN BIOLOGICAL IMAGING WITH FALSE DISCOVERY CONTROL

Bo Zhang, Nicolas Chenouard, Jean-Christophe Olivo-Marin, Vannary Meas-Yedid, Institut Pasteur, France

SA-PM1-O1.2: FAST NONLOCAL FILTERING APPLIED TO ELECTRON CRYOMICROSCOPY

Jerome Darbon, University of California, Los Angeles, United States; Alexandre Cunha, California Institute of Technology, United States; Tony F. Chan, Stanley Osher, University of California, Los Angeles, United States; Grant J. Jensen, California Institute of Technology, United States

SA-PM1-O1.3: TRACKING DISPLACEMENTS OF INTRACELLULAR ORGANELLES IN RESPONSE TO NANOMECHANICAL FORCES

Yaron Silberberg, Andrew Pelling, The London Centre for Nanotechnology and Centre for NanoMedicine, United Kingdom; Gleb Yakubov, Unilever Corporate Research, United Kingdom; William Crum, David Hawkes, Centre for Medical Image Computing (CMIC), United Kingdom; Mike Horton, The London Centre for Nanotechnology and Centre for NanoMedicine, United Kingdom

SA-PM1-O1.4: 3D RESOLUTION MEASURE FOR MULTIFOCAL PLANE MICROSCOPY

Jerry Chao, University of Texas at Dallas, United States; Sripad Ram, E. Sally Ward, University of Texas Southwestern Medical Center, United States; Raimund J. Ober, University of Texas at Dallas, United States

SA-PM1-O1.5: INTEGRATED PROFILING OF CELL SURFACE PROTEIN AND NUCLEAR MARKER FOR DISCRIMINANT ANALYSIS

Ju Han, Hang Chang, Kumari Andarawewa, Paul Yaswen, Mary Helen Barcellos-Hoff, Bahram Parvin, Lawrence Berkeley National Laboratory, United States

SA-PM1-O1.6: FLEXIBLE SYNAPSE DETECTION IN FLUORESCENCE MICROGRAPHS BY MODELING HUMAN EXPERT GRADING

Julia Herold, University of Bielefeld, Germany; Manuela Friedenberger, Marcus Bode, University of Magdeburg, Germany; Nasir Rajpoot, University of Warwick, United Kingdom; Walter Schubert, University of Magdeburg, Germany; Tim W. Nattkemper, University of Bielefeld, Germany

SA-PM1-O2: Optical imaging

SA-PM1-O2.1: A FAST THRESHOLDED LANDWEBER ALGORITHM FOR GENERAL WAVELET BASES: APPLICATION TO 3D DECONVOLUTION MICROSCOPY

Cédric Vonesch, Michael Unser, EPFL, Switzerland

SA-PM1-O2.2: FULL RANGE SWEPT-SOURCE OPTICAL COHERENCE TOMOGRAPHY USING 3X3 MACH-ZEHNDER INTERFEROMETER WITH UNBALANCED DIFFERENTIAL DETECTION

Youxin Mao, Costel Flueraru, Sherif Sherif, Shoude Chang, National Research Council Canada, Canada

SA-PM1-O2.3: EFFECT OF DEPTH OF CORRELATION ON CROSS-CORRELATION BLOOD FLOW MEASUREMENTS IN GLASS MICROCHANNELS

Boris Chayer, Jacques A. de Guise, Guy Cloutier, University of Montreal Hospital Research Center, Canada

SA-PM1-O2.4: NON-UNIFORM 3D DISTANCE TRANSFORM FOR ANISOTROPIC SIGNAL CORRECTION IN CONFOCAL IMAGE VOLUMES OF SKELETAL MUSCLE CELL NUCLEI

Patrick Karlsson Edlund, Uppsala University, Sweden; Joakim Lindblad, Swedish University of Agricultural Sciences, Sweden

SA-PM1-O2.5: MICRO-ROTATION IMAGING DECONVOLUTION

Bertrand LeSaux, Bernard Chalmond, Yong Yu, Alain Trouvé, ENS Cachan, France; Olivier Renaud, Spencer Shorte, Institut Pasteur, France

SA-PM1-O2.6: AUTOMATED LATERAL SECTIONING FOR KNIFE-EDGE SCANNING MICROSCOPY

Jaerock Kwon, David Mayerich, Yoonsuck Choe, Bruce McCormick, Texas A&M University, United States

SA-PM1-O2.7: SPARSITY REPRESENTATION FOR LIMITED DATA TOMOGRAPHY

Hstau Liao, Wadsworth Center, United States; Guillermo Sapiro, University of Minnesota, United States

SA-PM-SFS1: Computer-assisted Interventions

SA-PM-SFS1.1: COMPUTER-ASSISTED AND IMAGE-GUIDED ABDOMINAL INTERVENTIONS

Kevin Cleary, Jill Bruno, Jason Wright, Filip Banovac, Georgetown University Hospital, United States

SA-PM-SFS1.2: HYBRID SURGERY – THE WAY TOWARDS NOTES THE CHALLENGE FOR COMPUTER SCIENCE

H. Feussner, S. Can, A. Fiolka, A. Schneider, Klinikum rechts der Isar der TU München, Germany

SA-PM-SFS1.3: REAL-TIME INTRA-OPERATIVE 3D TISSUE DEFORMATION RECOVERY

Benny Lo, Adrian J. Chung, Danail Stoyanov, George Mylonas, Guang-Zhong Yang, Imperial College London, United Kingdom

SA-PM-SFS1.4: COMPUTER-ASSISTED SOFT TISSUE INTERVENTIONS

Hans-Peter Meinzer, Lena Maier-Hein, Ingmar Wegner, Matthias Baumhauer, Ivo Wolf, German Cancer Research Center, Germany

SA-PM-SFS1.5: NAVIGATED NUCLEAR PROBES FOR INTRA-OPERATIVE FUNCTIONAL IMAGING

Nassir Navab, Joerg Traub, Computer Aided Medical Procedures (CAMP), TUM, Germany; Thomas Wendler, Computer Aided Medical Procedures (CAMP) and Department of Nuclear Medicine, Klinikum rechts der Isar, TUM, Germany; Andreas Buck, Sibylle Ilse Ziegler, Department of Nuclear Medicine, Klinikum rechts der Isar, TUM, Germany

SA-PM-SFS1.6: VIRTUAL REALITY AND AUGMENTED REALITY APPLIED TO LAPAROSCOPIC AND NOTES PROCEDURES

Luc Soler, Stéphane Nicolau, Jean-Baptiste Fasquel, Vincent Agnus, Arnaud Charnoz, Alexandre Hostettler, Johan Moreau, IRCAD, France; Clément Forest, DIgital Trainers, France; Didier Mutter, Jacques Marescaux, IRCAD, France

SA-PM-SFS2: Animal PET and SPECT

SA-PM-SFS2.1: GEOMETRICAL CALIBRATION AND APERTURE CONFIGURATION DESIGN IN MULTI-PINHOLE SPECT

Kathleen Vunckx, K.U.Leuven, Belgium; Michel Defrise, Vrije Universiteit Brussel, Belgium; Dirk Bequé, GE Global Research, Germany; Christian Vanhove, Andriy Andreyev, Vrije Universiteit Brussel, Belgium; Johan Nuyts, K.U.Leuven, Belgium

SA-PM-SFS2.2: ADAPTIVE SMALL-ANIMAL SPECT/CT

L. R. Furenlid, J. W. Moore, M. Freed, M. A. Kupinski, E. Clarkson, Z. Liu, D. W. Wilson, J. M. Woolfenden, H. H. Barrett, University of Arizona, United States

SA-PM-SFS2.3: IMAGING DYNAMICS OF ORGANS AND DRUGS AT SUB-HALF-MM AND SUB-MINUTE RESOLUTION USING FOCUSING PINHOLE SPECT

Freek Beekman, TU-Delft, UMC Utrecht, MILabs, Netherlands; Frans van der Have, UMC Utrecht, MILabs, Netherlands; Brendan Vastenhouw, Woutjan Branderhorst, Annemarie can der Linden, Marten Smidt, UMC Utrecht, Netherlands

SA-PM-SFS2.4: EXTENDING THE IMAGE RESOLUTION OF SMALL ANIMAL PET VIA ACCESSORY INSERT DEVICES

Yuan-Chuan Tai, Heyu Wu, Debashish Pal, Joseph O'Sullivan, Washington University, St Louis, United States

SA-PM-SFS2.5: SYSTEM SENSITIVITY IN PRECLINICAL SMALL ANIMAL IMAGING

Arion-Xenofon Chatziioannou, Qinan Bao, David Geffen School of Medicine at UCLA, United States; Nicolas Karakatsanis, Natinal Technical University of Athens, Greece

SA-PM-SFS2.6: BEYOND CLEARPET: NEXT AIMS

Karl Ziemons, Forschungszentrum Jülich GmbH, Germany; Peter Bruyndonckx, Vrije Universiteit Brussel, Belgium; Jorge Perez, Centro de Investigaciones Energéticas Medioambientales y Tecnolóigicas, Spain; Uwe Pietrzyk, Forschungszentrum Jülich GmbH, Germany; P. Rato, Centro de Investigaciones Energéticas, Medioambientales y Tecnolóigicas, Spain; Stefaan Tavernier, Vrije Universiteit Brussel, Belgium

SA-P2a: Cardiac and vascular imaging

SA-P2a.1: CORRECTING SURFACE COIL INTENSITY INHOMOGENEITY IMPROVES QUANTITATIVE ANALYSIS OF CARDIAC MAGNETIC RESONANCE IMAGES

Li-Yueh Hsu, Anthony Aletras, Andrew Arai, National Institutes of Health, United States

SA-P2a.2: AUTOMATIC FILTER DESIGN IN HARP ANALYSIS OF TAGGED MAGNETIC RESONANCE IMAGES

Martina Marinelli, Scuola Superiore Sant'Anna, Italy; Vincenzo Positano, MRI Lab, CNR Institute of Clinical Physiology, Italy; Nael F. Osman, Johns Hopkins University, United States; Fabio A. Recchia, Scuola Superiore Sant'Anna, Italy; Massimo Lombardi, MRI Lab, CNR Institute of Clinical Physiology, Italy; Luigi Landini, Dep. of Information Engineering, University of Pisa, Italy

SA-P2a.3: MEASURING 3D LEFT VENTRICULAR STRAIN FROM UNWRAPPED HARMONIC PHASE

Bharath Ambale, Thomas S. Denney Jr., Auburn University, United States; Himanshu Gupta, Steven Lloyd, Louis Dell'Italia, University of Alabama at Birmingham, United States

SA-P2a.4: INTEGRATED SEGMENTATION AND DEFORMATION ANALYSIS OF 4-D CARDIAC MR IMAGES

Yun Zhu, Ping Yan, Xenophon Papademetris, Albert Sinusas, James Duncan, Yale University, United States

SA-P2a.5: UNBIASED MULTIPLE-SUBJECT ALIGNMENT OF LEFT VENTRICLES

K. S. Shriram, Srikanth Suryanarayanan, Vivek Vaidya, Srinivasan Rajagopalan, GE Global Research, India

SA-P2a.6: A NEW SINGULAR PERTURBATION APPROACH FOR IMAGE SEGMENTATION TRACKING

Joël Schaerer, Jérôme Pousin, Patrick Clarysse, Insa de Lyon, France

SA-P2a.7: MESHFREE FRAMEWORK FOR IMAGE-DERIVED MODELLING

Heye Zhang, Bioengineering Institute, University of Auckland, New Zealand; Linwei Wang, College of computer and information Sciences, Rochester Institute of Technology, United States; Peter Hunter, Bioengineering Institute, University of Auckland, New Zealand; Pengcheng Shi, College of Computer and Information Sciences, Rochester Institute of Technology, United States

SA-P2a.8: ITERATIVE CT RECONSTRUCTION OF REAL DATA WITH METAL ARTIFACT REDUCTION

Benoit Hamelin, Yves Goussard, David Gendron, École Polytechnique de Montréal, Canada; Jean-Pierre Dussault, Université de Sherbrooke, Canada; Guy Cloutier, Gilles Beaudoin, Gilles Soulez, Centre de Recherche, Centre Hospitalier de l'Université de Montréal, Canada

SA-P2a.9: A QUANTIFICATION FRAMEWORK FOR POST-LESION NEO-VASCULARIZATION IN RETINAL ANGIOGRAPHY

Sylvain Takerkart, Romain Fenouil, CNRS - UMR 6193, France; Jérome Piovano, INRIA, France; Alexandre Reynaud, CNRS - UMR 6193, France; Louis Hoffart, Hopital de la Timone, France; Frédéric Chavane, CNRS - UMR 6193, France; Théodore Papadopoulo, INRIA, France; John Conrath, Hopital de la Timone, France; Guillaume S. Masson, CNRS - UMR 6193, France

SA-P2a.10: CONJOINT USE OF CODED-APERTURE COLLIMATORS AND MLEM ALGORITHM: TOWARDS LARGE BLOOD VESSELS RECONSTRUCTION AT 511 KEV

Xavier Hubert, Dominique Chambellan, Samuel Legoupil, Jean-Robert Deverre, CEA, France; Nikos Paragios, ECP, France

SA-P2a.11: MODEL-BASED RESPIRATORY MOTION CORRECTION USING 3-D ECHOCARDIOGRAPHY

Andrew King, Christian Jansen, Redha Boubertakh, Kawal Rhode, Reza Razavi, Graeme Penney, King's College London, United Kingdom

SA-P2a.12: MOTION DECORRELATION IN ECHOCARDIOGRAPHY: ANALYSIS FROM A REALISTIC SIMULATION

Basma Touil, Olivier Bernard, Denis Friboulet, CREATIS, France

SA-P2a.13: 4D RECONSTRUCTION FOR GATED CARDIAC SPECT USING FOURIER BASIS FUNCTIONS

Xiaofeng Niu, Yongyi Yang, Illinois Institute of Technology, United States

SA-P2a.14: ANALYSIS AND MITIGATION OF CALCIUM ARTIFACTS IN CARDIAC MULTIDETECTOR CT

Zhuangli Liang, Boston University, United States; Synho Do, Massachusetts General Hospital, United States; William Karl, Boston University, United States; Thomas Brady, Homer Pien, Massachusetts General Hospital, United States

SA-P2a.15: CONSTRUCTION OF ENDOCARDIAL AND EPICARDIAL SURFACE MODELS FROM SEGMENTED MRI

Arnaud Bistoquet, Oskar Skrinjar, Georgia Institute of Technology, United States

SA-P2a.16: BRANCHING MEDIAL MODELS FOR CARDIAC SHAPE REPRESENTATION

Hui Sun, Brian Avants, University of Pennsylvania, United States; Alejandro Frangi, Sebastian Ordas, University Pompeu Fabra, Spain; James Gee, Paul Yushkevich, University of Pennsylvania, United States

SA-P2a.17: TIME-RESOLVED CARDIAC CT RECONSTRUCTION USING THE ENSEMBLE KALMAN FILTER

Ashvin George, National Institutes of Health, United States; Mark Butala, University of Illinois, United States; Richard Frazin, University of Michigan, United States; Farzad Kamalabadi, Yoram Bresler, University of Illinois, United States

SA-P2b: Magnetic Resonance Imaging and Spectroscopy

SA-P2b.18: ESTIMATION OF THE RESPIRATORY WAVEFORM FROM AN ACCELEROMETER

Phan Duy Hung, CEA-GRENOBLE/DRT/LETI/DTBS/LE2S, France and MICA, HUT-CNRS/UMI-2954-Grenoble INP, Viet Nam; Stephane Bonnet, Guillemaud Regis, CEA-GRENOBLE/DRT/LETI/DTBS/LE2S, France; Eric Castelli, Pham Thi Ngoc Yen, MICA, HUT-CNRS/UMI-2954-Grenoble INP, 1 Dai Co Viet, Hanoi, Vietnam, Viet Nam

SA-P2b.19: AUTOMATIC ASSESSMENT OF MYOCARDIAL FIBROSIS BY DELAYED ENHANCED MAGNETIC RESONANCE IMAGING

Vincenzo Positano, Institute of Clinical Physiology, Italy; Laura Brotini, University of Pisa, Italy; Giovanni Aquaro, Alessandro Pingitore, Massimo Lombardi, Institute of Clinical Physiology, Italy; Luigi Landini, University of Pisa, Italy; Maria Filomena Santarelli, Institute of Clinical Physiology, Italy

SA-P2b.20: INNOVATION MODELLING AND WAVELET ANALYSIS OF FRACTAL PROCESSES IN BIO-IMAGING

Pouya Tafti, Dimitri Van De Ville, Michael Unser, EPFL, Switzerland

SA-P2b.21: IMPROVED SPIRAL SENSE RECONSTRUCTION USING A MULTISCALE WAVELET MODEL

Bo Liu, University of Wisconsin - Milwaukee, United States; Emad Abdelsalam, GE Healthcare, United States; Jinhua Sheng, Leslie Ying, University of Wisconsin - Milwaukee, United States

SA-P2b.22: QUANTIFIED BRAIN ASYMMETRY FOR AGE ESTIMATION OF NORMAL AND AD/MCI SUBJECTS

Leonid Teverovskiy, Carnegie Mellon University, United States; James Becker, Oscar Lopez, University of Pittsburgh Medical Center, United States; Yanxi Liu, Penn State University, Carnegie Mellon University, Uinversity of Pittsburgh Medical Center, United States

SA-P2b.23: AN OPTIMISED MULTI-BASELINE APPROACH FOR ON-LINE MR-TEMPERATURE MONITORING ON COMMODITY GRAPHICS HARDWARE

Baudouin Denis de Senneville, Laboratory for Molecular and Functional Imaging: From Physiology to Therapy, France; Karsten Noe, Department of Computer Science, University of Aarhus, Denmark; Mario Ries, Laboratory for Molecular and Functional Imaging: From Physiology to Therapy, France; Michael Pedersen, MR Research Centre Institute of Clinical Medicine, Denmark; Chrit Moonen, Laboratory for Molecular and Functional Imaging: From Physiology to Therapy, France; Thomas Sorensen, Department of Medical Physics and Bioengineering, United Kingdom

SA-P2b.24: FILTERING, SEGMENTATION AND REGION CLASSIFICATION BY HYPERSPECTRAL MATHEMATICAL MORPHOLOGY OF DCE-MRI SERIES FOR ANGIOGENESIS IMAGING

Guillaume Noyel, Jesus Angulo, Dominique Jeulin, Ecole des Mines de Paris, France; Daniel Balvay, Charles-André Cuenod, LRI-EA4062 Paris V Descartes, APHP - HEGP, France

SA-P2b.25: REPRESENTATION OF TIME-VARYING SHAPES IN THE LARGE DEFORMATION DIFFEOMORPHIC FRAMEWORK

Ali Khan, Mirza Faisal Beg, Simon Fraser University, Canada

SA-P2b.26: A FAST METHOD FOR COMPUTING AND CORRECTING INTENSITY INHOMOGENEITIES IN MRI

Olivier Noterdaeme, Michael Brady, Wolfson Medical Vision Laboratory, United Kingdom

SA-P2b.27: EFFECTIVE VOIGT MODEL ESTIMATION USING MULTIPLE RANDOM STARTING VALUES AND PARAMETER BOUNDS SETTINGS FOR IN VIVO HEPATIC 1H MAGNETIC RESONANCE SPECTROSCOPIC DATA

Hélène Ratiney, Adriana Bucur, Michaël Sdika, Olivier Beuf, Franck Pilleul, Sophie Cavassila, CNRS, France

SA-P2b.28: HIGH SPEED MULTIPLE ECHO ACQUISITION (HISTO): A RAPID AND SIMULTANEOUS ASSESSMENT OF FAT AND IRON CONTENT IN LIVER BY 1HMRS, VALIDATION ON PHANTOMS AND PATIENTS

Nashiely Pineda-Alonso, Diego Martin, Qin Xu, Puneet Sharma, Miriam Vos, Xiaoping Hu, Emory University, United States

SA-P2b.29: RLS-GRAPPA: RECONSTRUCTING PARALLEL MRI DATA WITH ADAPTIVE FILTERS

W. Scott Hoge, Brigham and Women's Hospital and Harvard Medical School, United States; Fernando Gallego, Universitat Politecnica de Catalunya, Spain; Zhikui Xiao, Tsinghua University, China; Dana H. Brooks, Northeastern University, United States

SA-P2b.30: HIGH DIMENSIONAL STATISTICAL SHAPE MODEL FOR MEDICAL IMAGE ANALYSIS

Heng Huang, Fillia Makedon, University of Texas at Arlington, United States; Roderick McColl, University of Texas Southwestern Medical Center, United States

SA-P2b.31: TEXTURE ANALYSIS OF LESION PERFUSION VOLUMES IN DYNAMIC CONTRAST-ENHANCED BREAST MRI

Sang Ho Lee, Jong Hyo Kim, Jeong Seon Park, Jung Min Chang, Sang Joon Park, Yun Sub Jung, Seoul National University College of Medicine, Republic of Korea; Sungho Tak, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea; Woo Kyung Moon, Seoul National University College of Medicine, Republic of Korea

SA-P2c: Shape and motion analysis

SA-P2c.32: QUANTIFYING BLOOD FLOW DIVISION AT BIFURCATIONS FROM ROTATIONAL ANGIOGRAPHY

Irina Waechter, University College London, United Kingdom; Joerg Bredno, Philips Research Europe, Germany; Roel Hermans, Philips Medical Systems, Netherlands; Dean Barratt, University College London, United Kingdom; Juergen Weese, Philips Research Europe, Germany; David Hawkes, University College London, United Kingdom

SA-P2c.33: MOTION CORRECTION FOR AUGMENTED FLUOROSCOPY – APPLICATION TO LIVER EMBOLIZATION

James Ross, Navneeth Subramanian, GE, United States; Stephen Solomon, Memorial Sloan Kettering Cancer Center, United States

SA-P2c.34: CONVEX ANALYSIS AND SEPARATION OF COMPOSITE SIGNALS IN DCE-MRI

Li Chen, Dept of Electrical and Computer Eng, Virginia Polytechnic Institute and State University, United States; Tsung-Han Chan, Institute Communications Eng and Dept of Electrical Eng, National Tsing Hua University, Taiwan; Peter Choyke, Molecular Imaging Program, National Cancer Institute, United States; Chong-Yung Chi, Institute Communications Eng and Dept of Electrical Eng, National Tsing Hua University, Taiwan; Ge Wang, Yue Wang, Dept of Electrical and Computer Eng, Virginia Polytechnic Institute and State University, United States

SA-P2c.35: FAST 3D MESH GENERATION OF FEMUR BASED ON PLANAR PARAMETERIZATION AND MORPHING

Najah Hraiech, ANSYS France / Universite Rennes 1, France; Fulvia Taddei, Laboratorio di Tecnologia Medica, Istituti Ortopedici Rizzoli, Italy; Emmanuel Malvesin, Michel Rochette, ANSYS France, France; Marco Viceconti, Laboratorio di Tecnologia Medica, Istituti Ortopedici Rizzoli, Italy

SA-P2c.36: A THINNING ALGORITHM FOR EQUINE TENDON STRUCTURE IDENTIFICATION FROM 2D ULTRASOUND IMAGES

Ali Meghoufel, École de Technologie Supérieure, Canada; Guy Cloutier, Montrear University, Canada; Nathalie Crevier-Denoix, Ecole Nationale Vétérinaire d'Alfort, France; Jacques A. De Guise, École te Technologie Supérieure, Canada

SA-P2c.37: ACOUSTIC SHADOWS DETECTION, APPLICATION TO ACCURATE RECONSTRUCTION OF 3D INTRAOPERATIVE ULTRASOUND

Pierre Hellier, Pierrick Coupe, Pierre Meyer, Xavier Morandi, INRIA, France; Louis Collins, McGill University, France

SA-P2c.38: ANISOTROPY FACTOR ESTIMATION FROM BACKSCATTERED Q ELEMENTS OF STOKES VECTORS

Julie Falconet, Raphaël Sablong, Emmanuel Perrin, Université Claude Bernard Lyon 1, France; Hervé Saint-Jalmes, Université Rennes 1, France

SA-P2c.39: AUTOMATED LOCALISATION OF RETINAL OPTIC DISK USING HOUGH TRANSFORM

Sribalamurugan Sekhar, Waleed Al-Nuaimy, Asoke Nandi, University of Liverpool, United Kingdom

SA-P2c.40: SUPERVISED SHAPE ANALYSIS FOR RISK ASSESSMENT IN OSTEOPOROSIS

Marleen de Bruijne, University of Copenhagen, Denmark; Paola Pettersen, Center for Clinical and Basic Research, Denmark

SA-P2c.41: EFFECT OF THE BLOOD FUNCTION ERROR ON THE ESTIMATED KINETIC PARAMETERS WITH DYNAMIC PET

Yafang Cheng, Imam Samil Yetik, Illinois Institute of Technology, United States

SA-PM2-O1: Small animal imaging

SA-PM2-O1.1: FDG IMAGING OF 1MM TUMOR WITH AN ULTRA HIGH RESOLUTION ANIMAL PET

Keizo Ishii, Yoshihito Funaki, Youhei Kikuch, Hiromichi Yamazaki, Shigeo Matsuyama, Atsuki Terakawa, Mitsuhiro Fujiwara, Ren Iwata, Tetsuya Kodama, Yukiko Watanabe, Tohoku University, Japan; Naoto Tanizaki, Daizo Amano, Takashi Yamaguchi, Sumitomo Heavy Industries Ltd., Japan

SA-PM2-O1.2: FLUORESCENCE DIFFUSE OPTICAL TOMOGRAPHIC SYSTEM FOR ARBITRARY SHAPED SMALL ANIMALS

Anne Koenig, Lionel Hervé, Jérôme Boutet, Michel Berger, Jean-Marc Dinten, Anabela Da Silva, Philippe Peltié, Philippe Rizo, LETI-CEA MINATEC, France

SA-PM2-O1.3: NEW TECHNIQUES FOR DATA FUSION IN MULTIMODAL FMT-CT IMAGING

Damon Hyde, Northeastern University, United States; Eric Miller, Tufts University, United States; Dana H. Brooks, Northeastern University, United States; Vasilis Ntziachristos, Technical University of Munich and Helmholtz Center Munich, United States

SA-PM2-O1.4: MULTI-MODALITY CT-PET-NIR FLUORESCENCE TOMOGRAPHY

Amit Joshi, John Rasmussen, Sunkuk Kwon, Baylor College of Medicine, United States; Todd Wareing, John McGhee, Transpire Inc., United States; Eva Sevick, Baylor College of Medicine, United States

SA-PM2-O2: Non-optical micro-imaging

SA-PM2-O2.1: MODELING OF FORCE-VOLUME IMAGES IN ATOMIC FORCE MICROSCOPY

Charles Soussen, David Brie, Centre de Recherche en Automatique de Nancy, France; Fabien Gaboriaud, Laboratoire de Chimie Physique et Microbiologie pour l'Environnement, France; Cyril Kessler, Centre de Recherche en Automatique de Nancy, France

SA-PM2-O2.2: AN OPTIMAL-PATH APPROACH FOR NEURAL CIRCUIT RECONSTRUCTION

Elizabeth Jurrus, Ross Whitaker, Bryan Jones, Robert Marc, Tolga Tasdizen, University of Utah, United States

SA-PM2-O3: Compressive Sensing and Sparsity

SA-PM2-O3.1: DYNAMIC MRI WITH COMPRESSED SENSING IMAGING USING TEMPORAL CORRELATIONS

Jim Ji, Tao Long, Texas A&M University, United States

SA-PM2-O3.2: HIGH RESOLUTION DYNAMIC MRI USING MOTION ESTIMATED AND COMPENSATED COMPRESSED SENSING

Hong Jung, Jong Chul Ye, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea

SA-PM2-O3.3: EXACT RECONSTRUCTION FORMULA FOR DIFFUSE OPTICAL TOMOGRAPHY USING SIMULTANEOUS SPARSE REPRESENTATION

Jong Chul Ye, Su Yeon Lee, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea; Yoram Bresler, Univ. of Illinois at Urbana-Champaign, United States

SA-PM2-O4: Cortex

SA-PM2-O4.1: SEGMENTATION-FREE MEASUREMENT OF CORTICAL THICKNESS FROM MRI

Iman Aganj, Guillermo Sapiro, University of Minnesota, United States; Neelroop Parikshak, Sarah K. Madsen, Paul M. Thompson, University of California, Los Angeles, United States

SA-PM2-O4.2: DEFINING CORTICAL SULCUS PATTERNS USING PARTIAL CLUSTERING BASED ON BOOTSTRAP AND BAGGING

Zhong Yi Sun, Denis Rivière, Edouard Duchesnay, Bertrand Thirion, Fabrice Poupon, Jean-François Mangin, Neurospin, France

SA-PM2-O4.3: AUTOMATIC DETECTION OF SUBTLE FOCAL CORTICAL DYSPLASIA USING SURFACE-BASED FEATURES ON MRI

Pierre Besson, Neuroimaging of Epilepsy Laboratory, Montreal Neurological Institute, Canada; Olivier Colliot, Cognitive Neuroscience and Brain Imaging Laboratory, CNRS UPR 640-LENA, Université Pierre et Marie Curie - Paris 6, France; Alan C. Evans, McConnell Brain Imaging Center, Canada; Andrea Bernasconi, Neuroimaging of Epilepsy Laboratory, Montreal Neurological Institute, Canada

SA-PM2-O4.4: CORTICAL CORRESPONDENCE USING ENTROPY-BASED PARTICLE SYSTEMS AND LOCAL FEATURES

Ipek Oguz, UNC Chapel Hill, United States; Joshua Cates, P. Thomas Fletcher, Ross Whitaker, University of Utah, United States; Derek Cool, Robarts Research Institute, Canada; Stephen Aylward, Kitware Inc., United States; Martin Styner, UNC Chapel Hill, United States